# Berkshire Encyclopedia of World History

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# William H. McNeill

Senior Editor

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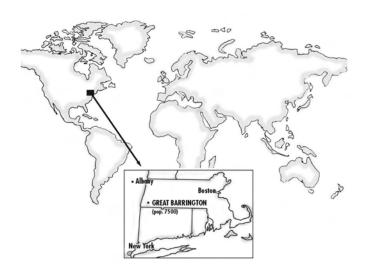
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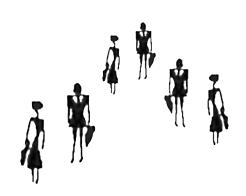
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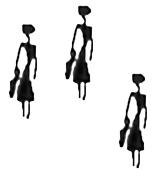
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# How to Spell It and How to Say It: 100 Important People, Places, and Terms in World History

Ralph Waldo Emerson once said, "A foolish consistency is the hobgoblin of little minds." Each time Berkshire Publishing Group sets to work on creating an encyclopedia, we review our guidelines on how we will present the names and terms that have changed in the course of history or through language alterations. We strive for consistency, though not the foolish kind against which Emerson warned.

Languages and geographic terms evolve regularly, and sometimes staying current means that we can't be completely consistent. Adding to the challenge is the fact that words in languages not based on the Latin alphabet (e.g., Chinese, Japanese, Arabic, Hebrew) must be transliterated—spelled in the language of another alphabet or "romanized" into English. And even within a language, transliteration systems change. Many people who grew up knowing the Wade-Giles system of Chinese romanization (with such spellings as Peking and Mao Tse-tung) had to become accustomed to seeing words using the pinyan romanization system introduced in the 1950s (with new spellings such as Beijing and Mao Zedong).

By and large, we look to *Merriam-Webster's Collegiate Dictionary*, 11th Edition (known as M-W 11), as our spelling authority, with *Merriam-Webster's Biographical Dictionary* and M-W's *Geographic Dictionary* for terms not in M-W 11. However, sometimes we overrule Merriam-Webster for a compelling reason. For example, historian Ross Dunn—who wrote the *Berkshire Ency*-

clopedia of World History's article on Ibn Battuta (and who is a leading expert on Battuta)—spells the name without the final "h," while M-W spells it "Battutah." In another case, the West African town of Timbuktu is so well known by that spelling that we opted for it in preference to M-W's preferred "Tomboctou."

Finally, there is the matter of using diacritical marks—accent marks, ayns (') and hamzas ('), and other markings—that provide phonetic distinctions to words from other languages. The use of diacritics is always a big question for a publisher on international topics. We—and the scholars we work with—tend to prefer to use various marks, from European-language accent graves to Japanese macrons and Arabic ums and ahs. But we have found that they can distract, and even intimidate, the general reader, so our policy has generally been to minimize their use. In time, as U.S. students become more comfortable with non-English forms and as we publish for global audiences, we will be able to make greater use of these marks, which are designed to be helpful to the reader.

That said, we thought it would be useful (and fun) to provide a listing of the "Top 100" terms—suggested by our editors—that have alternate spellings and names. We've also listed pronunciations for non-English names and terms. (The syllable in capital letters is the accented one; note, however, that Chinese and other languages do not necessarily stress syllables as is done in English.)

Preferred form	Pronunciation	Alternates
Alexander the Great	Tronuncianon	Alexander, Alexander of Macedon
Asoka	a-SHO-ka	Ashoka
Augustine, St.	u DIIO ku	Augustine of Hippo
Aurangzeb	or-ang-ZEB	'Alamgir
Caesar, Augustus	or ung ZID	Augustus Caesar, Caesar Augustus
Chiang Kai-shek	chang kye-shek	Jiang Jieshi
Confucius	con-FYU-shus	Kong Fuzi, K'ung Fu-tzu
Gandhi, Mohandas	GHAN-dee, mo-HAN-des	Mahatma Gandhi
Galileo Galilei	ga-li-LAY-o ga-li-LAY	not Galilei, Galileo
Genghis Khan	JEN-gis kon	Chinghis, Chinghiz, Chingiz
Han Wudi	hon woot-see	Han Wu-ti
Ibn Battuta	ib-un ba-TOO-ta	Ibn Battutah
IBN SINA	ib-un see-na	Avicenna
Jesus		Jesus Christ, Jesus of Nazareth
Kangxi emperor	kong-hsee	K'ang-hsi
Khubilai Khan	KOO-blah kon	Kublai, Qubilai
Laozi	laud-zuh	Lao-tzu, Lao Tzu
Leonardo da Vinci	le-o-NAR-do da VIN-chee	da Vinci, Leonardo
Mao Zedong	mao zeh-DON	Mao Tse-tung
Mencius	MEN-chee-us	Mengzi, Meng-tzu, Meng Tzu
Moses		Moshe
Motecuhzoma II	mo-tek-w-ZO-ma	Montezuma II; Moctezuma
Muhammad	mo-HA-med	Mohammad, the Prophet Muhammed
		Mehemet
Napoleon	na-POLE-eon	Napoleon Bonaparte
Qin Shi Huangdi	chin sher hwang-dee	Ch'in Shih Huang-ti
Saladin	SAL-a-den	Salah al-Din, Selahedin
Siddhartha Gautama	si-DAR-ta GAU-ta-ma	Buddha, The
Sima Qian	suma chee-en	Ssu-ma Ch'ien
Sui Wendi	sway wen-dee	Sui Wen-ti
Sui Yangdi	sway yahng-dee	Sui Yang-ti
Süleyman	soo-lay-MON	Süleyman the Magnificant, Süleyman l Suleiman the Lawgiver
Sun Yat-sen	soon yat-sen	Sun Yixian
Tang Taizong	tahng taizong	T'ang T'ai-tsung

		People (continued)
Preferred form	Pronunciation	Alternates
Thomas Aquinas, St.	a-KWY-nas	not Aquinas, Thomas
Timur	TEE-more	Timur Lenk, Tamerlane, Tamburlaine
Urban II	Otho	also Otto, Odo, Eudes—of Lagery
Zheng He	jeng huh	Cheng Ho
Zhu Yuanzhang	joo you-ahn-jahng	Chu Yüan-chang

		Place
Preferred form	Pronunciation	Alternates
Afro-Eurasia		Afroeurasia; Africa, Europe, and Asia
Aksum		Axum
Beiling	bay-jin	Peking
Bukhara	boo-KAR-a	Bokhara, Boukhara
Cambodia		Khmer Republic, Kampuchea
Chang River	chan	Yangzi, Yangtze
Czech Republic and Slovakia	chek, slow-VA-kee-a	Czechoslovakia
East Indies		Insular Southeast Asia
Едүрт		United Arab Republic
Guangzhou	gwang-joe	Canton
Habsburg		Hapsburg
Huange River	hwang	Huange He, Yellow River
Inner Asia		Central Asia
Iran		Persia
Iraq		Mesopotamia
Istanbul	iss-tan-BULL	Constantinople, Byzantium
Kandahar	KON-da-har	Qandahar
Kara-Kum	ka-ra-KOOM	Karakum
Kazakhs	kah-zaks	Khazaks
Khwarizm	KWA-ra-zem	Kwarezm, Khwarazm, Khuwarizm
Kongo		Congo
Kushan empire	koosh-an	Kushana, Kusana
Mesoamerica		Middle America, Central America
Mughul		Moghol, Mogol
Mumbai	MUM-bye	Bombay
Myanmar	MY-AN-mar	Burma
Samarqand	SA-mar-kand	Samarkand
CONTRACTOR TO SERVICE		(Continues on next pag

		Places (continued)
Preferred form	Pronunciation	Alternates
Shilla kingdom	shil-la	Silla kingdom
Songhai		Songhay
Sri Lanka	shree LAN-ka	Ceylon
Thailand	TIE-land	Siam
Тімвикти	tim-BUCK-too	Timbukto, Tombouctou
USSR		Soviet Union, Soviet Empire, Russia
Vietnam, Laos, Cambodia		known collectively as Indochina
West Indies		Caribbean

#### Religious , Political , and Cultural Terms

Preferred form	Pronunciation	Alternates
al-Jazeera	as-jah-ZEER-a	Al Jazeera, Al-Jazeera
al-Qaeda	al-KAY-da	Al Qaeda, al-queda
al-Razi	al-rah-zee	ar-Razi
Analects of Confucius		Sayings of Confucius
Bhagavad Gita	ba-ga-vad GEE-ta	Bhagavadgita
Bible, The		Old and New Testaments
Вканма		Brahman, Brahmin
CZAR		tsar
Daoism		Taoism
INDIGENOUS PEOPLES		primitive, native, nonindustrial
Latter-day Saints		Mormons
Muslim		Moslem
Native Americans		Indians, American Indians
Persian		Achaemenian, Achaemenid empire
Qing dynasty	ching	Ch'ing dynasty
Quran		Qur'an, Koran
Sasanian		Sassanian, Sasanid, Sassanid empire
Sніа	SHEE-a	Shi'a
Sharia	sha-REE-a	Shari'a, Islamic law
Siva	SHEE-va	Shiva
Song dynasty		Sung dynasty
Tang dynasty		T'ang dynasty

	Religious , Political, and Cultural Terms (continued)	
Preferred form	Pronunciation	Alternates
Torah		Five Books of Moses
Vodun	voo-DOO	Voodoo, Vodou
World War I		First World War, The Great War
World War II		Second World War
Yıjıng		I-ching, Yi-jing

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# Tang Taizong

(599-649)

SECOND EMPEROR OF CHINA'S TANG DYNASTY

Emperor Taizong (reigned 626–649) of the Tang dynasty (618–907), hailed in Chinese history as exemplifying the ideal Confucian rule of benevolence and righteousness, established a cosmopolitan empire and facilitated the spread of culture and trade in East, Central, and Southwest Asia and beyond. The fine administration and prosperity of his reign lay the foundation of a strong Tang dynasty; his empire extended to the steppes, and he controlled the Silk Road in Central Asia.

#### Overview

During Taizong's reign, Chinese government, laws, and culture (including Confucianism, poetry, and architecture) spread to other East Asian states and was incorporated into the local culture. Japan's Taika Reforms (from 645), in which the Japanese court adopted a Chinese-style centralized government, system of taxation, and law code, is one example. Unlike rulers of later dynasties, Taizong also embraced cultural diversity. While adopting Confucianism as state guideline, he also supported the translation of Buddhist sutras into Chinese, honored Laozi and Daoism, and built a Nestorian Christian church along with Zoroasterian temples in the capital city, Changan. Changan, magnificent in appearance and culture, attracted foreign envoys, traders, and clerics who traveled there along the Silk Road and by sea. People from all over Asia and even Africa, including the Turks,



Persians, Arabs, Japanese, and Koreans lived among the Chinese in Changan and in southern port cities. Their food, clothing, arts, and the religion of Buddhism became part of the Tang culture, while Chinese silk, goods, and technology spread to the other lands.

#### Life

Tang Taizong (actually the emperor's reign title; his birth name was Li Shimin) came from a aristocratic family from northern China. His mother and his wife were both of non-Chinese descent but they were known for Confucian propriety and were skilled in Chinese literature or calligraphy. Shimin was the second son of Li Yuan, a provincial governor under the Sui dynasty (581–618). In 617 Li Yuan rebelled against the unpopular Sui emperor Yangdi. Modern historians questioned the traditional account of Shimin's pivotal role leading to the uprising, but all agree that in the next four years Shimin defeated various contenders for the throne. At age twenty-four, he secured the empire for his father, who established the Tang dynasty.

Shimin excelled in cavalry and was an excellent strategist and commander. His exceptional achievements, however, led to fierce rivalry with his elder brother, who was the crown prince, and with his younger brother. In 626 Shimin triumphed over both brothers, who were killed, and ascended the throne at the age of twenty-nine when Li Yuan retired.

#### **Domestic Affairs**

Taizong created perhaps the finest administration in Chinese history. To rejuvenate a land devastated by wars, he adopted a benevolent rule. He distributed land to farm-

ers and collected taxes accordingly (approximately onefortieth of income), in kind. He was frugal in his expenditures and adopted a conciliatory foreign policy in his early reign to avoid wars.

He also established a bureaucracy based on merit, responsible officials, and thoughtful policy (state policies were prepared and reviewed by different offices before implementation). He discussed policy with chief ministers, appointed officials and generals based on their ability, regardless of class, ethnicity, or personal connections, and he held civil-service exams with questions based on the Confucian classics. Many of his most accomplished and devoted officials and generals had been on the staff of his former enemies or rivals. Independent examiners regularly reviewed officials; the emperor tolerated no abuses even from his own kinsmen. He also encouraged criticism of any of his policies or behavior that people judged inappropriate. His most outspoken critic was Wei Zheng (580–643), who had once served one of the emperor's brothers. It was not always easy for a powerful and highly accomplished monarch to hear disagreement, frank criticism, or interventions, but the emperor restrained himself and rewarded his critics when their arguments were reasonable and sound. He kept Zheng at his side and referred to him as his mirror that allowed him to see his mistakes. In fact, he credited Wei Zheng and other officials for making him a fine ruler. Throughout his reign, the emperor and his officials remained vigilant, consciously preserving good rule and bequeathing it to their descendants.

Taizong also ordered the revision and compilation of a penal code; the revised code reduced cruel punishments and became the foundation for later Chinese penal codes.

Thank God for tea! What would the world do without tea? How did it exist? I am glad I was not born before tea. • Sydney Smith (1771–1845)

#### Foreign Affairs

In foreign affairs, Taizong preferred alliances and winning allegiance through the appeal of fair and kind treatment, but he used military force when necessary. In 630 he dispatched troops and defeated the eastern Turks (in modern Mongolia), who often raided Tang cities. In the following years his army conquered more territory, but more importantly, it secured the submission of tribes and kingdoms in Central Asia and around the Silk Road without wars. Often, Taizong offered Tang princesses in marriage to tribal leaders to forge friendly diplomatic relations. When leaders submitted to Tang rule, Taizong made them governors of the regions they had formerly ruled independently, and he rarely intervened in their affairs. He allowed migration and in some instances ransomed back (nomad's) clansmen who were seized by their enemies.

#### Arts and Culture

Taizong loved fine horses, but he was also well versed in poetry and was an accomplished calligrapher. He ordered the compilation of the five Confucian Classics, as well as a commentary on them, and these became the standard texts for later dynasties. He wrote a preface for Xuanzang's monumental translation of hundreds of Buddhist sutras; he also wrote three commentaries in the official history of the previous dynasties. He revered Daoism and claimed its founder Laozi, whose family name was Li, as his royal ancestor.

#### Legacy

When Taizong died in 649, he was buried in Zhaoling, on a majestic mountain, which eventually was home to a constellation of over 160 tombs. Some of these were the resting places of imperial relatives, but most of the tombs housed meritorious officials, including over a dozen nomadic generals: Taizong had granted meritorious ministers the right to be buried in his mausoleum complex and included them in his extended political family.

Tang Taizong and his officials created a political legend in Chinese history. His recorded discussions with officials, the *Zhenguan zhengyao* (Essentials of Government of the Zhenguan Period) became part of the imperial curriculum for later Tang and all subsequent Chinese emperors as well as for the rulers of Japan and Korea. It even influenced the non-Chinese Khitan, Jurchen, and Mongol peoples. Taizong's theory and practice of rulership have a unique place in world history.

Lily Hwa

See also China

#### **Further Reading**

Fitzgerald, C. P. (1933). Son of heaven: A biography of Li Shih-min, founder of the Tang dynasty. Cambridge, UK: Cambridge University Press.

Liu Xu. (1975). Jiu Tangshu [Old Tang history]. Shanghai, China: Zhonghua Shuju. (Original work compiled 940–945)

Ouyang Xiu. (1975). *Xin Tangshu* [New Tang history]. Shanghai, China: Zhonghua Shuju. (Original work compiled 1043–1060)

Schafer, E. H. (1963). *The golden peaches of Samarkand: A study of T'ang exotics*. Berkeley and Los Angeles: University of California Press.

Si-ma Guang. (1972). Zi-zhi tong-jian [Comprehensive Mirror for Aid in Government]. Taipei, China: Shijie Shuju. (Original work compiled 1084)

Twitchett, D. (1996). How to be an emperor: T'ang T'ai-tsung's vision of his role. *Asia Major* 9(1–2), 1–102.

Wechsler, H. (1974). Mirror to the Son of Heaven: Wei Cheng at the court of T'ang Tai-tsung. New Haven, CT: Yale University Press.

Wechsler, H. (1979). T'ai-tsung (reign 626–49) the consolidator. In D. Twitchett (Ed.), The Cambridge history of China: Vol. 3. Sui and T'ang China, 589–906, Part 1 (pp. 188–241). Cambridge, UK: Cambridge University Press.

Wechsler, H. (1985). Offerings of jade and silk: Ritual and symbol in the legitimation of the T'ang dynasty. New Haven, CT: Yale University

Wu Jing. (1991). Zhenguan zhengyao [Essentials of government of the Zhenguan period]. Shanghai, China: Shanghai Guji Chuban She. (Original work compiled c. 707–709)

Xiong, V. (2000). Sui-Tang Chang'an: A study in the urban history of late medieval China (Michigan Monographs in Chinese Studies No. 85). Ann Arbor: University of Michigan Center for Chinese Studies.

#### Tea

Since its accidental discovery over ten thousand years ago in the jungles in the triangle on the borders of Myanmar (Burma), Assam (in present-day India), and China, tea has become the most consumed substance on

earth, apart from air and water. This has had immense consequences for almost every aspect of human life and international relations.

Tea is a drink made by picking and drying the leaves of a species of camellia, *camellia sinensis*. The leaf is then infused in hot or boiling water. Tea has many advantages as a trade good. For one thing, it can be produced cheaply. The semitropical climate it prefers is found in geographic regions as widely separated as central China and East Africa. Only a few leaves are needed to make a good pot of tea, and they can be reused. Dry tea is very light and stores well, so it can be shipped across the globe with ease, and its high value in relation to its weight makes it worthwhile to do so.

#### The Spread of Tea

Tea moved from the jungles of the golden triangle into the monastic gardens of China at least a thousand years before the birth of Christ. It spread across all of China by the eighth century CE. From the ninth century onwards it became the chief commodity traded with the wandering tribes of central Asia. The Mongols and Tibetans became great tea drinkers, and blocks of tea became the local currency. Tea was drunk by Buddhist monks as a medicinal

beverage in Japan from the eighth century; in the thirteenth century the habit of drinking tea spread to the rest of the population, and tea became the universal drink.

Tea began to be imported to Europe in the seventeenth century. When the direct clipper trade to China opened up in the 1720s, the price dropped and the imports soared. By the middle of the eighteenth century it was widely drunk by all classes in Britain. It was exported to the colonies, and the duty imposed on tea contributed to colonial unrest (as demonstrated in the Boston Tea Party of 1773, in which angry colonists dumped shipments of tea into Boston Harbor), which culminated in the American Revolution and the establishment of the United States.

The British empire was to a considerable extent built around tea, and the British East India Company's profits were largely based on the tea trade and the three-way movement of opium, tea, and silver between India, China, and Britain. The British introduced tea into Assam from the 1840s, and by 1890 the region boasted large plantations and machine-based production in factories. Tea production continued to expand and spread, moving into southern India and Sri Lanka. The Indians themselves became great tea drinkers only from the 1920s. Before that almost all the tea had been exported to

Britain, where it was sold for a higher price than it could fetch in India.

Because tea is best grown on plantations, its cultivation has altered the ecologies of the areas where it was grown, unsettled tribal populations, and thrown hundreds of thousands into boring, miserably paid labor, yet made huge profits for investors and tea managers. In Assam, for example, swathes of jungle, rare plants and many animals were destroyed. The tea coolies were herded into factories and into

A Chinese tea shop in the late nineteenth century. The men are engaged in other activities as the tea is served. sweated labour in the gardens. The conditions have slowly improved, but are still often deplorable.

#### Tea and Social History

Tea is easily prepared for drinking, but its preparation is sufficiently elaborate to encourage the human love of play and ceremony. In East Asia it had an enormous effect on social life through the tea ceremony, which drew on elements of religion (especially Daoism in China and Zen Buddhism in Japan) and had a profound influence on aesthetics in areas as diverse as ink painting, pottery, and architecture. The Chinese, Korean, Japanese, and British developments in porcelain and pottery, themselves highly important trade goods, were centered on tea bowls and other tea ware. In present-day Japan, mastery of the tea ceremony is considered a sign of good breeding, and the tea ceremony industry is quite large.

Drinking tea altered gender relations, meal times, and etiquette. It helped raise the status of married women in eighteenth- and nineteenth-century England. It made the English breakfast less meat-intensive and allowed the evening meal to be held later. It also led to new formal gestures of politeness and courtesy surrounding the preparation and serving of tea.

Today, tea is drunk by approximately three billion people a day. Long appreciated for the gentle stimulation its caffeine content provides, tea is also highly regarded for its ability to kill the microorganisms that cause many waterborne diseases, and today it is highly touted for its antioxidants. Historically, it has affected politics and the relations between nations and empires. It encouraged the development of new types of ship and ingenious factory machinery; it funded great trading companies and inspired literature and philosophy. It is indeed a remarkable plant.

Alan Macfarlane

#### **Further Reading**

Clifford, M. N. (1992). Tea: Cultivation and consumption. London & New York: Chapman & Hall.

Forrest, D. (1985). The world tea trade: A survey of the production, distribution and consumption of tea. Dover, NH: Woodhead-Faulkner.

Goodwin, J. (1990). The gunpowder gardens: Travels through India and China in search of tea. London: Chatto & Windus.

Hobhouse, H. (1985). Seeds of change: Five plants that transformed mankind. New York: Harper & Row.

Macfarlane, A., & Macfarlane, I. (2004). The empire of tea: The remarkable history of the plant that took over the world. New York: Overlook Press.

Ukers, W. H. (1935). All about tea. New York: The Tea and Coffee Trade Journal Company.

# Technology— Overview

Human beings cannot fly, or fight with their teeth and claws, or run, swim, or climb as handily as other animals. Instead, using our brains, we have devised tools and skills that have given us power over the natural world and permitted us to thrive almost everywhere on the planet. These tools and skills—in a word, technology—have also given some people power over others. To understand history, we must know who possessed what technologies and how they used them. The history of technology is the history of power over nature and over people.

# Technology before and during the Advent of Agriculture

Humans and their tools evolved symbiotically over millions of years. The hominid *Australopithecines* who lived in Africa from 4 to 2.5 million years ago used river cobbles as crude choppers to smash the bones of dead animals. Descendants of the species *Homo erectus* made hand axes by breaking flakes off both sides of a stone; they also learned how to control fire. With these tools, some hominids hunted big game while others gathered plants and insects. The size of their brains increased in tandem with their use of tools, while their teeth and jaws grew smaller.

The species *Homo sapiens*, humans like ourselves, appeared more than 150,000 years ago. They made a multitude of specialized tools, such as spear points, scrap-

Genius is one percent inspiration and ninetynine percent perspiration. • Thomas Edison (1847–1931)

ers, and blades. Beginning 70,000 years ago, humans made clothing, houses, and oil lamps, as well as cave paintings, musical instruments, and decorative jewelry. With their advanced hunting and gathering equipment and skills, they migrated to previously uninhabited areas, such as Siberia and the Americas. They had boats of some sort, for they crossed miles of open sea to reach New Guinea and Australia. They moved frequently in search of game and plant foods. Some 30,000 years ago, humans learned to sew clothing, using bone needles and sinew as thread, which allowed them to survive in formerly uninhabitable areas of the world like Siberia. Then, after 10,000 BCE, hunters began using bows and arrows to kill elusive and fast-moving game like deer and gazelles.

Permanent settlements coincide with the development of agriculture. Starting some 12,000 years ago, people in the Middle East began to harvest wild wheat and barley, and to help these plants grow by sowing seeds and clearing away weeds. To chop down trees, they made smoothsided stone axes. By storing grains from one harvest to the next, they were able to stay in one place and build permanent houses; the first known settlement was Jericho, founded c. 7350 BCE. They also domesticated animals: first dogs, then sheep and goats, then pigs, donkeys, and cattle. Agriculture developed in China and Southeast Asia in the ninth millennium BCE, in Europe from the seventh millennium, in West Africa from the fourth, and in Mexico from the second millennium on. In the Americas, the process started later and took longer because there were fewer wild plants and animals that could be domesticated: corn, beans, and squash were the primary domesticated plants, and dogs, turkeys, guinea pigs, and llamas the primary domesticated animals. Other tools and skills that made possible agriculture and animal husbandry included digging sticks and hoes to prepare the ground, sickles to harvest grains, baskets and bins to hold crops, and fences to keep animals.

The shift to agriculture and animal husbandry took two thousand years, during which time people continued to hunt and gather wild foods. By growing and raising food, far more people could survive in a given area than was possible if they relied on the bounty of nature. Once their population grew, however, they could no longer return to their old lifestyle.

# Hydraulic Civilizations (3500–1500 BCE)

As agriculture spread, people who lived on the banks of rivers, especially in hot dry regions, found that they could obtain phenomenal yields by watering their crops. To irrigate away from the riverbanks meant digging canals and constructing dikes. In the lower valley of the Tigris and Euphrates rivers in Mesopotamia (now Iraq) the Sumerians (who arrived in the region between 4000 and 3500 BCE) organized large numbers of workers to carry out these public works projects. They used wellsweeps (a bucket at the end of a counterbalanced pole) to lift water from the canals to their fields. By the mid-fourth millennium BCE, the resulting food surpluses allowed their leaders to build cities, create governments and laws, and employ artisans, bureaucrats, soldiers, and merchants. In Mesopotamia, cities built ziggurats, multistory temples made of sun-dried bricks. In Egypt and Mexico, rulers recruited farmers during the off-season to build pyramids and temples. The people of Peru built cities with great walls of massive stones that fit together perfectly.

The same social revolution occurred in Egypt in the late fourth millennium, for the same reasons. Every year, the Nile River flooded the valley. To retain the water, farmers built dikes to enclose basins; once the soil was thoroughly soaked, the water was released to the next basin downstream. All of this required massive amounts of labor.

Irrigation and water control were the key technologies of several other early civilizations. In northern China, civilization grew out of the need to protect the land from the dangerous floods of the Yellow River. In the Valley of Mexico (central Mexico), farmers built raised fields called *chinampas* in shallows lakes by digging canals and heaping the rich mud on their plots. On the coastal plains of Peru, among the driest environments on earth, farmers used the rivers that came down off the Andes to irrigate their fields.

Early civilizations also developed other technologies. Women spun thread and wove cloth, some of exquisite



beauty, out of flax in Egypt, wool in Mesopotamia and Peru, silk in China, and cotton in India and the Americas. Potters made pots for storage and cooking. Smiths learned to smelt metals from ores, first copper and later bronze, an alloy of copper and arsenic or tin. Wheeled carts were first used in Anatolia (now Turkey) and Mesopotamia in the fourth millennium, and spread from there to the rest of Eurasia.

# Iron and Horses (1500 BCE-1500 CE)

The first civilizations were very conservative, yet they could not prevent technological changes and the disruptions they caused. Among the many innovations that spread throughout the Eastern Hemisphere in the second millennium BCE, we can single out the two that had momentous consequences: the utilization of iron and the domestication of horses.

Iron, first smelted in Anatolia around 1500 BCE, required much more labor and fuel to make than bronze, but unlike copper and tin, its ores were found almost everywhere. Once blacksmiths learned to temper iron by repeated heating and quenching in water, it became hard enough to cut bronze. The low cost of iron made it possible to produce axes and saws for farmers and carpenters and knives and pots for household use.

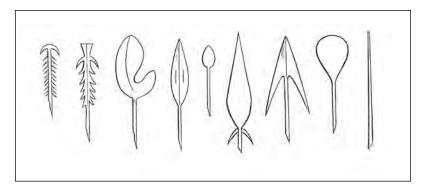
Iron spread to the Middle East around 1000 BCE, and from there to Africa and India. Iron tools gave a tremendous advantage to those peoples who used them at the expense of nature and of people with less-developed technologies. Bantu-speaking people from the Nigeria-Cameroon region cleared wooded areas of central and southern Africa for agriculture and gradually pushed earlier inhabitants such as the Pygmies and San into forests and deserts not suitable for agriculture. In India, people with axes spread into the Ganges valley and the Deccan plateau, turning forests into farmlands.

The Chinese created the most advanced iron industry. Not only did they make iron by hammering and tempering, like the peoples of Eurasia and Africa, they also invented bellows pumped by waterwheels that heated the furnace to the point at which the iron melted and could

be poured into molds. As the deforestation of central and southern China proceeded, iron makers learned to heat their furnaces with coal. By the late first millennium CE, China was mass-producing iron tools, weapons, and household objects such as pots, pans, knives, and bells.

In the Middle East, meanwhile, blacksmiths learned to make "damascene" blades (after Damascus in Syria) by repeatedly heating a strip of iron in burning charcoal, hammering it thin and folding it over, until the iron turned to steel, becoming hard, sharp, and flexible. Such a process was extremely time-consuming and was used only for very costly swords.

Horses were first tamed in the third millennium BCE, but were of limited use until carpenters began building chariots with spoked wheels, pulled by two horses and carrying two men, one to drive the horses and the other armed with a bow and arrows. Charioteers from the grasslands to the north invaded the agrarian civilizations of the Middle East, India, and China, causing great havoc between 1700 and 1300 BCE. Chariots in turn were made obsolete around 1200 BCE when nomadic herdsmen learned how to shoot arrows while riding a horse. After about 1500 BCE, the agrarian states added cavalry and iron weapons to their infantry armies and established large empires of conquest. The Assyrians, Persians, and Romans in turn dominated Southwest Asia and the Mediterranean, while the Qin and Han dynasties controlled China. These empires, extending over thousands of miles, were held together by efficient road networks and postal services. The Romans were especially gifted at civil engineering; many of their roads, buildings, and aqueducts are still standing. However, nomadic herdsmen from the grasslands of Asia continued to increase in numbers and in military might, and periodically attacked the agrarian civilizations. For two thousand years, the history of Eurasia consisted in large part of the struggle between agrarian empires and nomadic herdsmen. For centuries after they were domesticated, horses could not be used in agriculture because the throat-and girth harness caused them to choke and rear up if they had to pull a heavy load. The horse collar, which placed the load on their shoulders rather than their throats, first appeared in



This drawing shows the different types of arrow heads used by tropical foragerers in Africa in the nineteenth century. Their diversity of size and shape indicates that even so-called primitive peoples had sophisticated technology to exploit the environment.

China in the third century BCE and reached Europe between the ninth and the eleventh centuries CE.

#### Advances in Agriculture (1500 BCE -1500 CE)

Agriculture was also transformed during this period. As Han Chinese moved from northern China into the tropical Chang (Yangtze) River Valley and the south, they perfected the art of water management. Rice grows best in warm shallow ponds, but requires very careful terracing, plowing, planting, weeding, water control, and harvesting, most of which had to be done by human labor. In addition to rice, Chinese farmers also grew tea bushes and mulberry trees, whose leaves fed the silkworms for the silk industry. In return for more intensive labor inputs, the land produced ever more abundant yields per acre. As its population grew, China became the wealthiest and technologically most advanced civilization in the world, producing such innovations as paper, printing, paper money, and (later) the compass, oceangoing ships, and gunpowder.

A different kind of agricultural and technological revolution occurred in the Middle East from the seventh to the fifteenth centuries. The Arabs, a desert people, had domesticated the camel for use in regions too dry for horses. In the seventh century, they conquered the Middle East and North Africa. With a long tradition of trade, they welcomed and protected merchants and sailors. They rebuilt the irrigation works of Egypt and Mesopotamia and introduced several useful devices such as the saqiya (a chain of buckets) and the qanat, or underground tunnel, to carry water over long distances. They also introduced citrus fruits from China and sugar and cotton from India to the Middle East.

European agriculture lagged far behind agriculture in China and the Middle East, especially after the collapse of the Roman Empire after the fifth century. Yet Europeans created several ingenious innovations that allowed them to populate the western and northern portions of the continent, which the Romans had found uninhabitable. One was the three-field rotation system, whereby fields lay fallow one year out of three, instead of every other year as in earlier times, resulting in a 50 percent increase in productivity. Another was the iron horseshoe, which prevented horses' hooves from wearing out in wet weather. A third was the horse collar, which allowed a horse to pull much heavier loads than the throat strap used by the Romans. Europeans were also quick to adopt water wheels and windmills as sources of energy to grind grain, saw lumber, crush ores, and accomplish other tasks. While the yields per hectare in Europe in this period could not compare with those in China or the Middle East, the result of these innovations was to make the yields per person the highest in the world.

#### Technologies of **Global Interaction**

Ocean-going ships carried not only men and trade goods, but also animals and plants from one place to another. Domesticated plants and animals have been essential technologies since the Neolithic, requiring knowledge and skills to grow or breed them and to transform them into foods and fibers. From the beginning of agriculture, plants and animals had been transferred within the Eastern Hemisphere and also, with more difficulty, within the Americas. The vovages of the fifteenth and sixteenth centuries allowed transfers between the Old World and the New. The Europeans brought with them wheat, rice, sugar, and cotton, along with many fruits, vegetables, and trees. From the Americas they returned with corn, potatoes, and tobacco, among others. The Portuguese transferred cassava (manioc) from Brazil to Africa and Indonesia.

Europeans also brought their animals with them wherever they went. Pigs and cattle ran wild in the Americas. Horses were used by Europeans and by the Plains Indians of North America. The New World had almost no animals to offer in exchange, however. Introduced crops and animals increased the food supply and contributed to the rise in population around the world. In the process, they accelerated the transformation of local environments and the destruction of native plants and animals. In the fifteenth century, improvements in ships and navigation led to the diffusion of other technologies around the globe. Let us consider three important technologies with global repercussions: navigation and gunpowder.

#### NAVIGATION

People had long navigated on rivers and lakes and along seacoasts. Humans reached New Guinea and Australia tens of thousands of years ago. Malay people from Southeast Asia migrated to Indonesia and reached Micronesia and New Caledonia by 2000 BCE. Others crossed the Indian Ocean to Madagascar. They learned to navigate by observing the stars, the sun, and the moon and by feeling the ocean swells. Gradually, they ventured out into the Pacific Ocean in dugout canoes equipped with outriggers and triangular "crab-claw" sails, finally reaching Hawaii and New Zealand. The peoples living along the Mediterranean Sea, by contrast, did not develop oceangoing vessels. Their cargo ships were broad-beamed with a square sail and could sail only in good weather and preferably with the wind. Their warships were propelled by oarsmen and were designed to ram and board enemy ships. Neither was suited to travel on the Atlantic.

The Indian Ocean lends itself to regular navigation because of the monsoons that blow toward Asia in the late

> Fire making is one of the most basic of human technological skills. In this drawing a Tohono O'odham (papago) man in southern Arizona is shown starting a fire with a fire drill.

summer and autumn and away from that continent in the winter and spring. In the early centuries of the common era, Arabs, Persians, and Indians built dhows, small sailing ships made of teak planks sewn together with coconut fibers with a lateen, or triangular sail, that could sail at an angle to the wind. The prosperity of the Indian Ocean trade was the envy of both Chinese and Europeans.

Beginning in the Song Dynasty (960–1279), the Chinese developed a kind of ship called a junk, with a flat bottom, bamboo sails, and a sternpost rudder. Captains were equipped with magnetic compasses and charts of the waters they sailed in. Between 1405 and 1433, the Chinese government sent seven expeditions to the Indian Ocean. The first included 317 ships, some of which were 120 meters long and 48 meters wide. With the largest ships and the most powerful fleet in the world, the Chinese could have explored all the oceans of the world. But for various reasons, not the least of which was cost, the government ended the expeditions and prohibited ocean navigation.

Meanwhile, Europeans were becoming more adept at navigation. By combining the best features of the Mediterranean oared galleys and the round-hulled sailing ships of the North Sea, the Portuguese created a ship called a caravel that had both square and lateen sails and a sternpost rudder, and that could be sailed in any wind with a small crew. During the fifteenth century, they fig-



Invention is the mother of necessity. • Thorstein Veblen (1857–1929)

ships and knowledge Christopher Columbus (1451–1506) crossed the Atlantic in 1492, and Vasco da Gama (1460–1524) reached India six years later.

#### Gunpowder

Gunpowder was first used in China in the thirteenth century for flame throwers and fireworks. In the fourteenth century, Europeans and Turks began casting large cannon that could hurl iron cannonballs and destroy the walls of fortified cities. Artillery gave a great advantage to centralized states like those of the Ottoman Turks, the Mughals in India, and the czars of Russia. Western Europeans were the first to build smaller naval cannon and ships strong enough to withstand the recoil of guns in battle, and with these they quickly dominated the Indian Ocean and the waters off East and Southeast Asia.

#### The Industrial Age (1750–1950)

Beginning in the mid-eighteenth century, a new set of technologies, which we call industrial, began to transform the world. Industrialization had four defining characteristics: an increased division of labor; the mechanization of production and transportation; energy from fossil fuels; and mass production of goods and services. Each of these had been tried in various places before—for example, books were mass produced from the sixteenth century on—but it is the combination of all four that defined true industrialization.

Industrialization began with the British cotton textile industry, which used machines powered by flowing streams to produce cloth in large quantities at low cost. At the same time, abundant coal was used to produce cheap iron. The most spectacular invention of the eighteenth century, and the one that distinguished the British industrial revolution from all previous periods of rapid change, was the steam engine, improved by the condenser James Watt (1736–1819) patented in 1769. By the midnineteenth century, steam engines were used to pump water, turn machines, and power locomotives and ships.

The new industrial technologies spread to other countries, but very unevenly. Western Europe and northeastern

North America soon followed Britain's lead, but the rest of Europe and Russia lagged behind until the late nineteenth century. India and Latin America imported machines and technicians, but not the engineering culture that would have lessened their dependence on the industrial nations. Of all the non-Western nations, only Japan began industrializing before 1900.

Meanwhile, a second wave of industrial technologies appeared in the late nineteenth and early twentieth centuries, mainly from Germany and the United States. Inventors found ways of mass-producing steelformerly a rare and costly metal—at a cost so low that it could be used to build bridges and buildings and even thrown away after use. The German chemical industry, founded to produce synthetic dyestuffs, expanded into fertilizers, explosives, and numerous other products. Electricity from batteries has been used since the 1830s to transmit messages by telegraph, but after 1860 generators and dynamos produced powerful currents that could be used for many other purposes. In 1878, Thomas Edison (1847–1931) invented not only the incandescent light bulb, but also the generating stations and distribution networks that made electricity useful for lighting and later for electric motors, streetcars, and other applications. In 1895, Guglielmo Marconi (1874-1937) created the first wireless telegraph, the ancestor of radio.

The beginning of the twentieth century saw the introduction of two other technologies that revolutionized life in the industrial countries and, later, in the rest of the world. In 1886 Karl Benz (1844–1929) and Gottlieb Daimler (1834–1900) put an internal combustion engine on a "horseless carriage." In 1913 Henry Ford (1863–1947) began building his Model T on an assembly line, making cars so inexpensive that even workers could afford them. By the 1920s, automobiles were common in the United States. After the mid-century, they became common in Europe as well.

The other revolutionary invention was the airplane. The brothers Wilbur (1867–1912) and Orville (1871–1948) Wright were the first to fly in 1903. They were soon followed by others on both sides of the Atlantic.

From the 1950s onward, flying became a common means of transportation around the world.

In peacetime, mass production meant mass consumption of cotton clothes, railroad transportation, automobiles, and other consumer items. But industrial production also made possible mass destruction in two widespread and murderous World Wars and in the annihilation of entire populations. Yet even after the most destructive wars in history, the nations that had suffered the heaviest damage—Russia, Germany, and Japan—were able to rebuild remarkably quickly. Industrialization spread more slowly to South Asia, the Middle East, and Latin America, and has not yet begun in earnest in most of Africa. The industrial world is still an exclusive club.

#### The Postindustrial World

Postindustrial does not mean that industry is disappearing; on the contrary, there is more industry producing more products than ever before. Yet we are clearly in the midst of another technological revolution, as dramatic—but much faster—than the agricultural and industrial revolutions that preceded it.

The new revolution involves many technologies that can trace their origins to World War II. In that war, governments understood that their hope of victory rested on developing new weapons and other military technologies. Such research programs were extremely costly, yet invention proceeded at an accelerated pace that would not have been possible if governments had relied on private enterprise. This realization led governments to continue funding research long after the war was over.

#### War-Related Technologies

The most dramatic invention of the war was the atom bomb, built by the United States between 1942 and 1945. After the war, the Soviet Union also built atom bombs, which were followed in the 1950s, by the far more powerful hydrogen bomb. Nuclear energy was not limited to bombs. Nuclear reactors were harnessed to produce electricity and to power submarines and other ships.

In 1957, the Soviet Union launched the first artificial satellite, *Sputnik*. The rocket that hoisted it into orbit was

based on the V-2 missile built by Germany during the war. *Sputnik* was the precursor of thousands of satellites put into space for espionage and surveillance, television broadcasting, and telecommunications. The most spectacular event of the space age was the Moon landing of 1969, proof of humankind's growing power over the natural world.

#### ELECTRONICS

Future historians will no doubt consider the new electronic technologies even more revolutionary than nuclear and rocket technology. Television, still experimental before the war, became a consumer item in the 1950s in the United States and in the 1960s in Europe and Japan. Radar, developed during the war for military purposes, later served civilian aviation, navigation, and law enforcement. Computers, also invented during the war, became important business tools with IBM's System 360 in 1964 used in the banking, insurance, and retail industries, among others. Apple made the first popular personal computers in the late 1970s, but was soon overshadowed by IBM and a host of smaller companies that purchased operating systems and programs from the giant of the software industry, Microsoft. In the mid-1980s, the Internet began linking computer networks around the world. The World Wide Web, introduced in 1991, made it possible to send images as well as text, and made the Internet so user-friendly that companies soon used it to advertise and sell their products. Most computer hardware and software originated in the United States, but the manufacture and marketing of consumer electronics was dominated by Japanese companies.

#### Віотесниособу

Biotechnology is another area that has seen rapid technological development. In 1953, James Crick and Francis Watson discovered DNA, the substance that encodes all the information needed to create living beings. Their findings promised advances in medicine, agriculture, and other fields. In the 1970s, agronomists created more productive hybrids of rice, wheat, corn, and other crops: the Green Revolution. Since the mid-1990s, genetically



modified organisms have confronted nations and their farmers and consumers with a controversial trade-off between present benefits and future risks.

#### Technology and the Future

The power of humans over nature has increased at an accelerating rate. Now humans are capable of extraordinary achievements, but also extraordinary damage to one another and to the planet. Advances in computers and communications will soon offer those who can afford them instant access to every text, film, or piece of music, and will enable powerful governments to track every vehicle and perhaps every person on earth. Nuclear power has the potential to replace fossil fuels, but its exploitation also makes possible the creation of dangerous weapons, which may fall into the hands of desperate individuals. Biotechnology promises better health but also the manipulation of all forms of life in ways never imagined; cloning in particular is a headline-grabbing new technology fraught with difficult social and moral implications. These technologies and others not yet imagined are double-edged swords for those who possess them. Meanwhile, those who have no access to modern technologies—half or more of humankind—are no better off than they were a thousand years ago.

Daniel R. Headrick

#### Diamond, J. (1997). Guns, germs, and steel: The fates of human societies. New York: W. W. Norton.

- Elvin, M. (1973). The pattern of the Chinese past. Stanford, CA: Stanford University Press.
- Fagan, B. M. (2002). World prehistory: A brief introduction (5th ed). Upper Saddle River, NJ: Prentice-Hall.
- Finney, B. R. (1994). Voyage of rediscovery: A cultural odyssey through Polynesia. Berkeley and Los Angeles: University of California Press.
- Gimpel, J. (1997). The medieval machine: The industrial revolution of the Middle Ages. New York: Penguin.
- Headrick, D. (1981). The tools of empire: Technology and European imperialism in the nineteenth century. New York: Oxford University
- Headrick, D. (in press). The planet machine: A global history of technology. New York: Oxford University Press.
- Hourani, G. F. (1995). Arab seafaring in the Indian Ocean in ancient and early medieval times. Princeton, NJ: Princeton University Press.
- Levathes, L. (1994). When China ruled the seas: The treasure fleet of the dragon throne, 1405-1433. New York: Oxford University Press.
- McClellan III, J. E., & Dorn, H. (1999). Science and technology in world history. Baltimore, MD: Johns Hopkins University Press.
- McNeill, W. H. (1982). The pursuit of power: Technology, armed force, and society since A.D. 1000. Chicago: University of Chicago Press.
- McNeill, W. H. (1989). The age of gunpowder empires, 1450-1800. Washington, DC: American Historical Association.
- McNeill, W. H., & McNeill, J. R. (2003). The human web: A bird's eye view of world history. New York: W. W. Norton.
- Pacey, A. (1990). Technology in world history. Cambridge, UK: Cambridge University Press.
- Rhodes, R. (1985). The heavens and the earth: A political history of the space age. New York: Basic Books.
- Rhodes, R. (1988). The making of the atom bomb. New York: Simon & Schuster.
- Stearns, P. (1993). The industrial revolution in world history. Boulder, CO: Westview Press.
- White Jr., L. (1962). Medieval technology and social change. New York: Oxford University Press.

#### Further Reading

- Barber, E. W. (1994). Women's work: The first 20.000 years: Women, cloth, and society in early times. New York: W. W. Norton.
- Bray, F. (1986). The rice economies: Technology and development in Asian societies. Berkeley and Los Angeles: University of California Press.
- Bray, F. (2000). Technology and society in Ming China (1368-1644). Washington, DC: American Historical Association.
- Bulliet, R. (1990). The camel and the wheel. New York: Columbia University Press.
- Casson, L. (1991). The ancient mariners: Seafarers and sea fighters of the Mediterranean in ancient times (2nd ed.). Princeton, NJ: Princeton University Press.
- Cipolla, C. (1965). Guns, sails and empires: Technological innovation and the early phases of European expansion, 1400–1700. New York: Funk & Wagnalls.
- Crosby, A. (1972). The Columbian exchange: Biological and cultural consequences of 1492. Boulder, CO: Westwood Press.

# Telegraph and Telephone

The telegraph and the telephone are communica-L tions media that transmit messages by coded signals, rather than by transporting a physical object such as a letter. The telegraph conveys written messages and the telephone transmits voice. Both media developed rapidly in the nineteenth and twentieth centuries and form the foundation of the electronics revolution of our time.

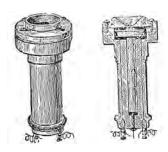
# **Visual Telegraphy**

Long before the eighteenth century, attempts were made in many parts of the world to send messages over long distances using such media as smoke signals, fires, and mirrors, usually in

one direction only—for example, to warn of approaching enemies. During the French Revolution, Claude Chappe (1763–1805) devised a system of articulated beams and arms that could be moved to indicate numbers, letters, or phrases in a code book. These devices were placed on towers situated approximately 5 to 10 kilometers apart. After the success of their first line in 1794, the French government built a network across France and into neighboring countries. Similar systems were built in other countries, but only over short distances. At the same time, officers of Britain's Royal Navy developed a new system of flags and code books that allowed two-way communication between ships. These were the first systems that could freely send messages over long distances in either direction. Thus in 1794, the French government in Paris received news of the victory of its army at Condé within minutes of the event, and at Trafalgar in 1805, Admiral Nelson was able to obtain information and control his ships during the course of the battle.

# Early Electric Telegraphy

In the late eighteenth and early nineteenth centuries, many inventors tried to send messages over wires by electricity. The electric battery, invented in 1800, and the electromagnet, developed in the 1830s, made such a project possible. In 1837 two Englishmen, William Cooke (1806–1879) and Charles Wheatstone (1802–1875), patented a system that used six wires and five needles (later reduced to two) to point at letters and numbers on a board. Their system was installed on railroad lines in Britain. That same year the American Samuel F. B. Morse (1791–1872) patented a code of dots and dashes that could send signals over a single wire. He opened the first electric telegraph line in the United States, from Washington to Baltimore, in 1844.



Alexander Graham Bell's telephone.

Electric telegraphs were an instant success in Europe and North America. By 1848, all the cities of North America east of the Mississippi were connected by telegraph wires. The Western Union Company, founded in 1856, quickly

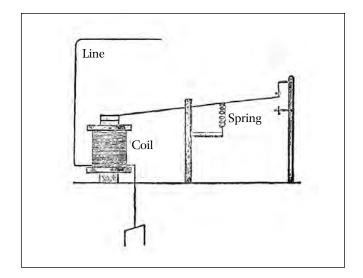
dominated the North American telegraph industry. By 1861 its lines connected San Francisco with the East Coast, and it was planning a land line to Europe via Alaska and Siberia when the Atlantic cable made such a line unnecessary. European governments either started building telegraph networks or bought out the first companies. To connect their various national networks, several European countries, later joined by others, formed the International Telegraph Union in 1865.

Telegraphs were so indispensable to the safe and efficient operation of trains that railway companies gave free right-of-way to telegraph lines in exchange for free service. Telegraphs were valuable business tools, conveying commodity and stock prices and other time-sensitive information. They were also used by newspapers, which competed by presenting the latest dispatches bought from the Associated Press (founded in 1848), Reuters (1851), and other news agencies. Governments also made use of the telegraph, especially in times of war and other emergencies.

Outside of Europe and North America, progress was slow. Colonies of the European powers, such as India and Algeria, got their first telegraph lines in the 1850s, as did several Latin American countries and the Ottoman empire. In China, Africa, and much of the Middle East, governments were reluctant to admit this new form of Western intrusion. Environmental conditions and popular resistance often made it difficult to install and maintain telegraph lines.

# Later Electric Telegraphy

Telegraphy continued to advance technologically until the mid-twentieth century. Beginning with a line across the English Channel in 1851, entrepreneurs laid insulated cables across seas and oceans. After several spectacular failures, the technology was finally perfected in 1865 and



1866 with the laying of the first successful transatlantic cables. That success encouraged entrepreneurs to lay cables in other parts of the world: from Europe to India in 1870, to Australia, China, and Latin America in the early 1870s, and around Africa in the 1880s. By the end of the century, all the continents and major islands were connected in a global network dominated by Western Union and the Commercial Cable Company in the North Atlantic and elsewhere by a British firm, the Eastern and Associated Telegraph Companies. The global submarine cable network played a major role in the growth of the world economy and international trade before World War I, during the first age of globalization. That network was also strategically valuable, and gave Britain, France, and the United States a significant advantage over Germany in World War I.

Other advances in telegraph technology improved transmission speeds and reduced labor costs. Thus multiplexing—sending several messages simultaneously over the same wire—was introduced in the 1870s and, starting in the 1920s, automatic teletypewriters and vacuum tube repeaters replaced the manual typing and retransmitting of messages. Facsimile transmissions (faxes) began in the 1930s. By then, however, wired telegraphy had fallen far behind two radically different technologies: telephony and radio.

# Telephony

In 1876, Alexander Graham Bell (1847–1922) patented a method of transforming sound into electrical impulses and vice versa, thereby making it possible to transmit the human voice over a wire. His invention was the founda-

### This diagram shows the structure of Morse's telegraph system.

tion of an industry that now connects people throughout the world.

At first, telephone networks were mainly local or, at best, regional, for transmission quality deteriorated with distance. Service was expensive, as calls had to be switched by operators in telephone exchanges. Beginning in the 1890s, rotary dials and automatic switches permitted a great expansion of service without additional labor. In the United States and Canada, many independent companies competed with the giant AT&T (incorporated in 1885), especially in rural areas. In Europe, telephone service was provided by the government, usually by the postal and telegraph administration. Outside of Europe and North America, telephones were very rare before World War II, usually limited to government offices and major businesses.

In 1915 AT&T installed vacuum tube repeaters on its longer lines, making it possible to connect New York and San Francisco. A dozen vears later, it became possible, though it was extremely expensive, to telephone overseas or to ships at sea.

By the mid-twentieth century, the telephone industry, like the telegraph industry before it, had become mature and technologically conservative. In the United States, local telephone service reached all businesses and most families by the 1950s, but long-distance service was still too costly for the majority of users. In Europe and Latin America, the cost of telephone service was out of reach of the working class. Elsewhere, telephone service was a business tool and a luxury for the urban rich.

Then came a series of innovations that revolutionized the industry and its social effects. The first transatlantic telephone cable, laid in 1956, could carry a dozen calls at once; it was soon duplicated and extended to other oceans. Starting in the 1960s, satellites and inexpensive transmission stations made global telephony cheap and available worldwide by multiplying the number of telephone conversations that could be sent at the same time. On land, microwave towers dramatically lowered the cost of long-distance communications. Fiber-optic cables, introduced in the 1980s, could carry hundreds of thousands of simultaneous telephone conversations.

Long-distance calls, both on land and across oceans, were suddenly as cheap as local calls. From 1960 to 1990, for example, the cost of a call from New York to London fell from thirty U.S. dollars to ten cents a minute.

Even as telephony was changing global communications, another series of technological innovations was transforming telephones at the local level. With the computerization of the network, telephones could perform new functions that had not been possible before. Pushbutton dialing, call waiting, caller identification, and voice mail were among the innovations. It also became possible to use telephones as data communication machines: One could key in numbers to access bank accounts or communicate with programmed answering machines. The telephone network was also used to carry data between computers, via modems. As with all innovations in electronics, in the advanced industrial countries the initial cost of the new telephony was high but fell rapidly; for their inhabitants, the world soon formed one giant and easily accessible network. Most of the world, however, was left far behind. Today, for example, there are more telephone lines in Manhattan than in all of Africa, and most of the people of India and China have never used a telephone.

# Radio Telegraphy and Telephony

The technology of radio began very differently from that of wired telegraphy and telephony, but wireless and wired technologies soon interacted with each other and are now almost indistinguishable. Though there had been scientific experiments before, it was a young Irish-Italian, Guglielmo Marconi (1874–1937), who in 1895 was the first to use electromagnetic waves as a means of communication. By 1898 he was able to send messages in code over 40 kilometers, and in 1901 he transmitted the letter "S" across the Atlantic. He quickly established a company to communicate with ships at sea and to compete with the cable companies in transcontinental communications.

For the first decade, transmitters used sparks to create radio waves, but soon others invented devices that could transmit not only dots and dashes, but also voice and music. The most important of these was the triode, or vacuum tube, patented by the American Lee De Forest (1873–1961) in 1907. Starting in 1913, it was used in long-distance telephony, then in radio equipment during World War I.

Until the mid-1920s, long-distance radio telegraphy used long waves that required enormous energy-hungry transmitters. Then Marconi and other researchers found that short waves (200 meters or less, or frequencies of more than 1500 kilohertz—more than 1.5 million wave cycles per second) could be produced by inexpensive small transmitters, yet be heard around the world. While the cables and big long-wave transmitters almost shut down, short-wave communication now came within reach of any ship, island, or remote mining camp. In World War II, short-wave radios were used by both sides to communicate with airplanes, warships and submarines, tanks, and even spies.

Microwave radio (with wavelengths measured in centimeters and frequencies of more than 1,000 megahertz—more than a billion cycles per second) found application not only in radar, but also, from the 1950s, as an alternative to copper cables in telephone networks. As mentioned above, microwave radio transmissions, like fiber-optic cables, dramatically reduced the cost of telephone calls.

In the 1990s the combination of computers and microwaves revolutionized the telephone industry yet again. The invention of cell (or mobile) phones made it possible for people to talk to one another or to send brief text messages while walking or driving. As the cost of cell phone service came down to a level comparable to that of wired telephone service, cell phones became among the most popular consumer items in Europe, North America, and Japan.

# The Future of Telecommunications

Technological revolutions in telecommunications, especially from the mid 1980s onward, have caused turmoil in the industry. Former monopolies such as AT&T in the



United States and Canada and the postal, telegraph, and telephone administrations (or PTTs) in other countries suddenly found themselves seriously threatened, for the first time, by upstart rivals. Money poured into the industry, leading to a stock-market bubble and a serious oversupply of bandwidth and communications channels, followed in 2000 by a recession and many bankruptcies. Expansions and contractions are, however, a normal aspect of business expansion in a free-market economy, one that will benefit consumers in the long run.

Developing countries, meanwhile, are finding it difficult to keep up. While the unit cost of telephone calls are low, the initial investment is enormous, and the technical expertise required to install and maintain computer networks and cell-phone systems is beyond the reach of all but a handful of developing countries. The ones with large populations and economies, like China, India, and Brazil, are keeping up by providing advanced services to certain favored regions and social classes; others are falling behind. Thus, the telecommunications revolution is putting many developing nations at a more serious disadvantage than they were already.

If the recent past is a guide, we can expect as many surprises in the twenty-first century as in the twentieth. Telephone and Internet service will continue to penetrate, however unevenly, into the remotest areas of the world; someday, perhaps, everyone will be connected to everyone else. The quality of telecommunications is also likely to change, perhaps with the introduction of video on demand anywhere at any time. Those technological marvels, however, are no more likely than the technological revolutions of the past to bring about world peace or alleviate poverty.

Daniel R. Headrick

See also Communications - Overview

# **Further Reading**

Aitken, H. G. J. (1985). The continuous wave: Technology and American radio, 1900–1932. Princeton, NJ: Princeton University Press.
 Aitken, H. G. J. (1985). Syntony and spark: The origins of radio. Princeton, NJ: Princeton University Press.

Barty-King, H. (1979). Girdle round the earth: The story of cable and wireless and its predecessors to mark the group's jubilee, 1929–1979. London: William Heinemann.

Dibner, B. (1959). The Atlantic cable. Norwalk, CT: Burndy Library.
Galambos, L., & Abrahamson, E. J. (2002). Anytime, anywhere: Entrepreneurship and the creation of a wireless world. Cambridge, UK:
Cambridge University Press.

Headrick, D. R. (1991). The invisible weapon: Telecommunications and international politics, 1851–1945. New York: Oxford University Press.

Holzmann, G. J., & Pehrson, B. (1994). The early history of data networks. Los Alamitos. CA: IEEE Computer Society Press.

Hugill, P. J. (1999). Global communications since 1844: Geopolitics and technology. Baltimore: The Johns Hopkins University Press.

Lebow, I. (1995). Information highways and byways: From the telegraph to the 21st century. New York: IEEE Press.

Lubar, S. (1993). Infoculture: The Smithsonian book of information age inventions. Boston: Houghton Mifflin Company.

Pool, I. D. (1990). Technologies without boundaries: On telecommunications in a global age. Cambridge, MA: Harvard University Press.

Standage, T. (1998). The Victorian Internet: The remarkable story of the telegraph and the nineteenth century's on-line pioneers. New York: Berkley Books.

# **Textiles**

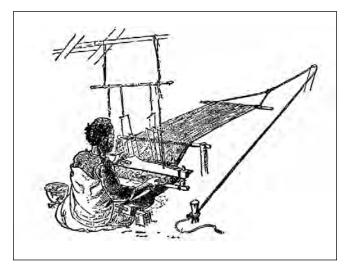
Prehistoric people all over the world twisted fibers from animals or plants into cordage to bind objects together, knot fishnets, sew skins, and string beads. In many different locations, they looped or interlaced the cordage into fabrics for both utilitarian and decorative purposes. They incorporated designs within the fabric construction or decorated the surface with embroidery or pigments. When worn, these fabrics provided protection from foul weather, insects, and perhaps evil spirits. Cloth also offered wearers many possibilities to express identity and individuality.

Archaeology and linguistics provide evidence of early textile production. Early spinners in many locations developed techniques to make cordage or yarns by twisting animal hair or bundles of fibers from plant stems and leaves. They invented the spindle, a shaped stick with a weight at the larger end, to twist the fibers uniformly and store the spun yarn. Archaeologists seldom find spindle sticks, but often clay or stone weights have survived. Spinners in many countries still hand-spin yarns with a

spindle, although some twist long plant fibers into yarn by rolling them on their bare thighs as their ancestors did.

#### Looms

Early people found a number of ways to arrange the spun yarns into fabric. The earliest extant examples, which date from around 6000 BCE came from a cave in presentday Israel at Nahal Hemar and archaeological excavations in Turkey at Catal Huyuk. The fabrics from these and other early sites contain fibers, like flax, from plant stems. Mesopotamian weavers along the Tigris and Euphrates Rivers wove flax fabrics on horizontal looms. Wall paintings in tombs and three-dimensional funerary models also show Egyptians controlling stiff flax yarns on a horizontal ground loom. Basically this loom had two wooden beams spaced apart with yarns wrapped back and forth between the two beams, which were held in place by pegs beaten into the ground. This set of yarns is called the warp. The Egyptians interlaced another varn over and under the tightly stretched warp yarns to produce a woven fabric. This intersecting set of crosswise yarns is called the weft. The width and length of the loom determined the size of the fabric. Plant fibers contain mostly cellulose,



A traditional loom from India. Although different in appearance, it works on the same principles as the loom from Medieval Europe.

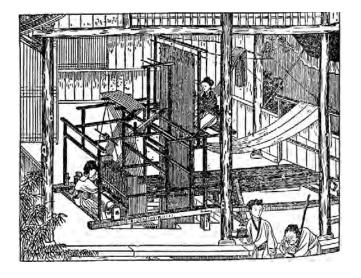
which does not dye easily, so Egyptians most often used undyed linens. They showed wealth and prestige by the fineness of the yarns and the whiteness of the fabric.

Early weavers north of the Mediterranean developed a vertical loom by suspending the warp yarns from a horizontal beam held by upright supports on either side. The warp yarns hung down from the beam. To provide order and tension, the weavers tied the lower ends of the warps to clay or stone weights. The weaver then interlaced the weft yarns beginning at the top of this warpweighted loom. Archaeologists have found loom weights dating as early as Neolithic times in Crete, Greece, Switzerland, Hungary, Romania, Bulgaria, and Yugoslavia. Discovering a row of weights between two postholes provides clear evidence that people wove on vertical looms even when no yarn or fabric remains.

Figurines, wall paintings, pendants, and extant textiles from Egypt to China show the development of other types of looms. Most often the spinners and weavers depicted are women, who could combine these tasks with childcare. Over time in many locations, women produced textiles for domestic use; men became more involved when the cloth had potential for trade. Textiles have been a major trade commodity since ancient times, making a significant contribution to the economy of many areas.

#### Yarns

As sheep became domesticated around 4000 BCE, weavers produced fabrics containing wool yarns. Sumerian cuneiform tablets recorded information about sheep breeds. Wool is a protein fiber and is easily dyed, and Mesopotamian figures and wall paintings show colorful fabric patterns. Wool had limited use by pharonic Egyptians, but in the New Kingdom, they wove hieroglyphic designs in linen fabrics. The tomb of Thutmose IV contained examples of this tapestry weaving with weft yarns woven in only where their color is needed. They are tightly packed, obscuring the warp yarns. Later Egyptian Christian Coptic weavers expertly used this discontinuous weft-faced tapestry weave to create pictorial textiles. The Coptic influence is particularly obvious in surviving



Syrian, Byzantine, and Persian textiles. Far Eastern weavers also produced tapestry and figured weaves, but they used different fibers.

Spinners in Tibet and China spun fibers from the stems of hemp plants. People also cultivated hemp (*Cannabis*) in Europe, but whether they used it for cordage or narcotic smoke is undetermined. Wild silkworm grew many places in Europe and Asia, but the moths cut through the cocoons damaging the fine filaments they had spun and leaving very short fibers that made yarn construction difficult. In the production of cultivated silk from *Bombyx mori* moths, the Chinese killed the moths before they could harm the filaments in the cocoons. They unwound many yards of filament from undamaged cocoons. Raising silkworms and their food source, mulberry leaves, is a very labor-intensive enterprise; the process is called sericulture.

The trade of colorful, patterned silk fabrics expanded westward by the late fifth century BCE, and trade routes developed into the renowned Great Silk Road. The Chinese traded their silk fabrics but not their production secrets, although by the sixth century CE weavers in the Byzantine Empire were producing *Bombyx mori* silk textiles that all of Europe envied. Mosaics in Ravenna, Italy, show that lavish patterned fabrics were worn in the court of Emperor Justinian and Empress Theodora.

The other natural fiber that clothed East and West, royalty and peasant, male and female was cotton. Originating in the Indus Valley by the third millennium BCE, cotton is the seed-hair fiber of a bush or tree (*Gossypium*). Like they did with silk, traders took cotton fabrics westward, and archaeologists have found examples at Egypt-

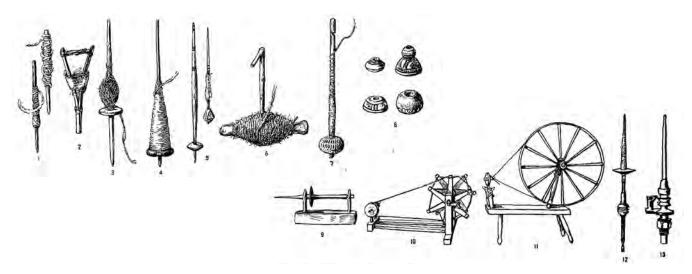
The Chinese loom from the early thirteenth century used for weaving intricate and delicate designs with silk.

ian and Mesopotamian sites. A number of classical writers described a plant on which "wool" grew and explained that gardeners chose cotton plants because they have blossoms of two different colors, depending on their maturity. Cotton grows in a variety of colors and is easier to dye than flax. Indian dyers perfected the art of coloring cotton. Beginning earlier than 2000 BCE, they made dyes that were colorfast by using mordants, metallic salts that minimize the fading of dyes by light or laundering. Textile workers in other early civilizations shared the knowledge of mordants, most often using iron and aluminum salts.

#### Dyes

A significant trade of dyestuffs occurred along the Great Silk Road and many other Old World routes. Coloring wool, silk, and cotton yarns and fabrics made them more valuable economically. Dyers played a major role in textile production, although they and their dye pots often had to exist on the fringes of settlements because the fermentation required for plant dyes as well as the use of urine and dung in the dyeing and printing processes gave off unpleasant odors. Early plant dyes included madder —orange-red to purple, depending on the mordant; indigo—blue; safflower—red or yellow; saffron—yellow; and weld—yellow. Like mulberry trees left from futile efforts at sericulture, madder and indigo plants, once a valuable commodity, now grow wild in many places.

Two animal dyes that produced vibrant reds came from a Mediterranean sea snail and a female shield louse that grew on trees. The Minoans of Crete probably perfected and certainly distributed the production of dye from the sea snails around the Mediterranean, although the Phoenicians are given credit for this dye, which is called Tyrian purple. The most expensive ancient dye, it is the color associated with emperors and royal courts. Kermes, the dye from the shield louse, excelled in dyeing silk and wool. Central and South American dyers also used two similar dyes. They perfected the process of dyeing with the color from a small sac in sea snails and from a louse that lives on cactus plants. The latter, cochineal,



This series of drawings shows the variety of spindles used over time and across cultures to twist fibers: (1) Wooden peg; (2) Silk winder from China; (3) Spindle with whorl from Native Americans of British Columbia; (4) Spindle from Mesoamerica; (5) Spindle from Peru; (6) Spindle from Tibet for yak wool; (7) Spindle from Tibet; (8) Simple spinning wheel; (9) An early machine spindle from Finland; (10) Flywheel spindle from China; (11) Simple cotton and wool spinning wheel; (12) Saxon spindle of a spinning wheel; (13) Spindle commonly used on nineteenth century cotton-spinning machines in the United States.

replaced kermes and became one of the most valuable New World exports until synthetic dyes began to replace natural dyes in the last half of the nineteenth century.

Historically the dyeing process has not been as simple as dunking a piece of fabric into a pot of dye. Sunbleaching fabrics to reduce the natural off-white colors required time and space. Dyes and mordants needed preparation, and the multistep dyeing process took days to complete. Dyers were among the earliest chemists, the earliest herbal doctors, and the earliest artists. They colored not only pieces of cloth but also skeins of yarn, which were then woven or braided into colorful patterns.

#### **Patterned Fabrics**

Many cultures have produced patterned fabrics for centuries by applying a resist in chosen areas to prevent dye absorption. Resists can be wound around yarns or fixed to a fabric. The Indonesian word for patterned fabrics woven of yarns that have been wrapped in sections to prevent dye penetration is ikat. Far Eastern, African, and Guatemalan ikats are internationally fashionable today. Japanese dyers produce a very marketable product called shibori, an expertly patterned tie-dyed cloth. African dyers create large tie-dye designs, popular in T-shirts today. Wax or paste resists paint. When blocked onto a cloth before dyeing, it produces a patterned fabric called by the Indonesian word batik. Indonesians traditionally use wax to make their batiks; Africans use cassava paste while Japanese make a rice paste. In the eighteenth century, resist pastes included chemicals that prevented a dye from fixing to a fabric. Popular indigo-resist prints in colonial America had large floral patterns influenced by the imported Indian calicoes. A patterned fabric, even a plaid, offers marketable variations. From the earliest times, weavers devised methods of raising sets of warp yarns before inserting a weft varn between the warps on a loom. When the weaver raised every other warp yarn, inserted a weft varn across the width of the fabric, raised the alternate set of warps, and laid in another weft yarn, she produced a plain weave. By varying the pattern in which she raised each warp, she made other weave structures such as twills. The earliest hand-operated mechanism for selectively raising warp yarns was a string that encircled alternate warps connecting them to a rod that could pull them up away from the other set of yarns. The term for the string loops controlling the warp yarns is heddles. Over time, improvements to this use of heddles allowed weavers to construct fabrics with complex patterns.

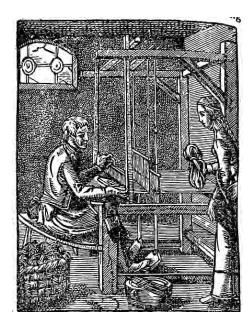


The loom with the most complicated control over warp patterning was developed in the Middle East and Far East, although the Chinese often receive credit for it. The operation of this loom, called a *drawloom*, required two people: One controlled the frames or harnesses that held the heddles to make a plain-weave base structure and inserted the weft yarns; the other sat above the loom to control the patterning warps. This second person was often a child (and child labor has been prevalent worldwide in the textile industry—in homes, workshops, and mills.

# Damask, Jacquard, and Lace

Tapestry-woven fabrics, such as cashmere shawls from Kashmir, are very labor intensive and cannot be made by machines. Weaving mechanically controlled patterns required less time than tapestry weaving and produced a very marketable product, particularly if made of silk. For a thousand years, Chinese, Japanese, Syrian, Byzantine, and Persian workshops produced exotic figured silks on variations of the drawloom. Competition from Palermo, Sicily, and Lucca, Italy, by the thirteenth century introduced fabrics that evolved into the luxurious velvets of the Italian Renaissance from Florence and other Italian city-states. Many of these fabrics are portrayed in fifteenth-century paintings and tapestries. The Italians dominated figured-silk production through the sixteenth century, when instead of velvets, fashionable silks had patterns created by colored supplementary weft yarns. Under the guidance of Jean-Baptist Colbert, finance minister under Louis XIV, drawloom weaving in Lyon expanded. By the eighteenth century Lyon's damasks and brocaded fabrics surpassed Italian production, with some competition from weavers in Spitalfields outside of London. Many Spitalfields textile workers had fled persecution after the revocation of the Edict of Nantes in France, and the demise of textile production in Palermo, Spain, and Flanders were also the result of worker migration caused by political unrest and religious persecution. Jacquard attachments on looms, a nineteenth century English invention, revolutionized figured-silk weaving, as well as the production of carpets, imitation Kashmir shawls, coverlets, knits, and machine-made laces. Lyon apartment houses with excessively tall ceilings on the top floors reflect the height and light requirements of these looms. This early computerized system used a series of punched cards that determined which warp yarns were raised to create a pattern. This basic system provides control for looms, lace, and knitting machines today.

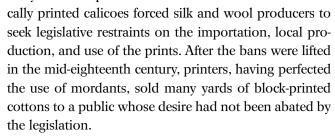
Jacquard's invention also affected the production of lace, first made by hand in the sixteenth century. Like figured silks, bobbin and needle laces reflected conspicuous consumption by the wealthy. The English development of machines to make knits (sixteenth century) and fine net (late eighteenth century) came before more complicated equipment that imitated handmade lace. Leavers lace machines with Jacquard attachments made the best imitations and still do today in England, France, and Rhode Island. Raschel knitting machines make the least expensive modern laces, which are not as durable as other laces because of their looped construction.



A loom of the type commonly used in the sixteenth century.

#### **Printed Cottons**

Another fabric became as valuable as lace and patterned-silk cloth during the seventeenth century. Brightly painted and printed cottons from India appealed to Europeans, and various Western trade companies set up the production of these calicoes or chintzes in East India. To obtain a share of the profits being made on the Indian prints, entrepreneurs in England and France began printing imported cotton fabric. The popularity of the imported and domesti-



Laws passed to govern consumer expenditures, called sumptuary laws, have seldom been effective, especially in regulating printed cottons, lace, and figured silks. Whether to protect local production, as in this case, or to maintain social order by limiting consumption based on income, or to limit worldly excesses as determined by religious groups, sumptuary laws often fostered the development of illegal methods for consumers to obtain a product.

Christophe-Philippe Oberkampf of Jouy near Paris was the most successful early calico printer. Fast dyes and well-cut blocks brought his manufactory fame and fortune. He was one of the printers in the latter eighteenth century who experimented with faster methods of printing. The result was printing cloth with an engraved copper plate on which the design was incised into the metal surface. Copperplate printing produced large-scale monochromatic patterns with very fine lines, which were not possible with wood blocks. Ever-seeking to increase production, inventors finally perfected an engraved copper cylinder printing machine through which fabric moved continuously. By the 1820s European and American



The cotton plant.

shops produced printed cottons at price levels all could afford. Inventions by Englishmen John Kay (1733), James Hargreaves (1767), Richard Arkwright (1770s), and Samuel Crompton (1779) greatly increased the production of spun cotton yarn in England. Two Americans also made significant contributions. Eli Whitney's 1793 cotton gin made large-scale cotton production economically feasible. Samuel Slater, who had worked for Arkwright, partnered with two Prov-

idence, Rhode Island, merchants and set up a cotton spinning factory in Pawtucket. This manufactory, now the Slater Mill Historic Site, was the beginning of the Industrial Revolution in America.

### The Nineteenth Century and After

By the beginning of the nineteenth century, spinning was no longer the rate-determining step in cloth production. Spinning mills in England and southern New England had thousands of spindles. With the perfection of waterpowered looms after 1815 and cylinder printing in the twenties, printed cotton cloth that had been available only to the rich in the previous century sold for as little as ten cents per yard. Hand-production of cloth diminished significantly in western Europe and the United States. Dye technology also kept pace with other advancements, the most significant being the discovery in 1856 by William Perkin of mauve, the first synthetic dye. By the end of the century, most classes of dyes recognized today had been developed. Cylinder-printing technology changed little after the mid-nineteenth century and remained the backbone of the industry until rotary-screen printing took over in the 1990s.

An additional change in the 150 years of printing with dyes also occurred then. Improvements in formulations to print pigments that are insoluble in water increased the amount of pigment printing significantly. In the

The highest manifestation of life consists in this: that a being governs its own actions. A thing which is always subject to the direction of another is somewhat of a dead thing. • Saint Thomas Aquinas (1225-1274)

twenty-first century, rotary screen-printing with pigments is economically and environmentally expedient.

Textiles have influenced economics, technology, art, religion, government, customs, and many other human endeavors. The production, design, and use of textiles are also a mirror held up to history.

Margaret T. Ordonez

See also Dress

## **Further Reading**

Balfour-Paul, J. (1998). Indigo. London: British Museum Press.

Barber, E. J. W. (1991). Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages. Princeton, NJ: Princeton University

Barber, E. W. (1994). Women's Work: The First 20,000 Years. New York: W. W. Norton.

Brédif, J. (1989). Printed French Fabrics: Toiles de Jouy. New York: Rizzoli.

de'Marinis, F., ed. (1994). Velvet: History, Techniques, Fashions. New York: Idea Books.

Geiger, A. (1979). A History of Textile Art. Leeds: W. S. Maney & Son. Harris, J., ed. (1993). Textiles: 5.000 Years. New York: Harry N. Abrams. Phillips, B. (1994). Tapestry. London: Phaidon Press.

Sandberg, G. (1994). The Red Dyes: Cochineal, Madder, and Murex Purple, A World Tour of Textile Techniques. Asheville, NC: Lark Books.

Seiler-Baldinger, A. (1994). Textiles: A Classification of Techniques. Washington, DC: Smithsonian Institution Press.

Toomer, H. (2001). Antique Lace: Identifying Types and Techniques. Atglen, PA: Schiffer Publishing.

Wada, Y., Rice, M. K. & Barton, J. (1983). Shibori, The Inventive Art of Japanese Shaped Resist Dyeing: Tradition, Techniques, Innovation. Tokyo: Kodansha International.

Wilson, K. (1979). A History of Textiles. Boulder, CO: Westview Press.

# Thomas Aquinas, St.

(c. 1225-1274)

Italian philosopher and theologian

**C** t. Thomas Aguinas represents the culmination of philosophical and theological achievement during the European Middle Ages, and his influence on subsequent generations of Western philosophers and Christian theologians has been profound. He proved a powerful and influential advocate of the philosophy of the Greek

philosopher Aristotle and was the author of what remains the most comprehensive effort at reconciling reason and religious faith ever attempted by a Catholic thinker.

The son of Count Landulf of Aquino, Thomas was a member of the south Italian nobility. Born at Roccasecca, between Rome and Naples, he received his preliminary education at the nearby monastery of Monte Cassino. In 1239 Thomas's parents sent him to the University of Naples, where he first engaged in intensive study of Aristotle under the scholar Peter of Ireland. During his years at Naples, Thomas made two important decisions: to devote the rest of his life to philosophy and theology and to become a Dominican friar. The two decisions were related because Dominicans were already among the leading scholars of the day. When Thomas became a friar in 1244 he received permission to leave Naples for Paris to study under the renowned Dominican philosopher and scientist Albert the Great (c. 1195–1280).

This move was opposed by his family, who intended for him to become a bishop or the abbot of a prominent monastery. Abducted by his family as he was traveling northward through Italy, he was held captive at Roccasecca for a year before being allowed to proceed on his chosen path.

Thomas studied under Albert the Great at both Paris and Cologne, Germany, where Albert relocated in 1248 to establish a Dominican studium generale, a college for study of the liberal arts. Thomas served as one of his assistants, giving introductory lectures on biblical interpretation. In 1252, his academic apprenticeship completed, Thomas returned to Paris to take up the position of lecturer on the Bible and the Sentences of the Italian theologian Peter Lombard (c. 1095-1161), the core textbook of the theology curriculum. He also began to publish his own work and in 1256 was appointed to the position of master of theology, the highest title attainable in the academic hierarchy.

In 1259 Thomas traveled to Italy and remained through 1268, lecturing at Dominican convents and colleges in Naples, Orvieto, and Rome. He frequently attended the papal court, providing his services as preacher and liturgist. He returned to Paris at the height

# Thomas Aquinas on Happiness and Community

Felicity and happiness are the ultimate end of human life, as was said above. Hence law must especially look to the ordering of happiness. Again, since every part is ordered to its whole as the imperfect to the perfect, and one man is a part of the perfect community, it is necessary that law properly look to the order to the common happiness. Hence the Philosopher [Aristotle]... makes mention of happiness and political community. For he says in *Ethics* 5 that we call those things legally just that are creative and conservative of happiness and its particulars by political co-operation; for the city is the perfect community, as is said in *Politics* 1.

Source: Thomas Aquinas. (1998). Summa theologiae, I-II.90, Art. 2. In R. McInerny (Irans.), *Selected Writings* (p. 614). London: Penguin Books & New York: Penguin Putnam.

of his reputation but soon found himself embroiled in a major controversy over the proper relationship of philosophy and theology.

Thomas's first major book, a commentary on Lombard's Sentences, contains more than two thousand references to the works of Aristotle. Already in his early days as a teacher he had defined his intellectual project: to establish the proper relationship between philosophy and theology. In this pursuit he made use of not only the works of Christian theologians and ancient Greek and Roman thinkers, but also the works of Muslim and Jewish philosophers such as Ibn Sina (980-1037), Ibn Rushd (1126-1198), and Ibn Gabirol (1021-1058). Thomas argued that both philosophy and faith are necessary to a true pursuit of theology because logical argumentation leads to a more precise and complete knowledge of religious belief. Thomas further held that, even without faith in Christian revelation, the human mind can use rational analysis of observations made through the five senses to attain an incomplete but still extensive understanding of the being of God and the nature of the rational laws governing the created universe.

While Thomas was in Italy, a group of scholars in Paris called the "Averroists" (followers of Ibn Rushd) were

promulgating the position that the truths of philosophy and the truths of religion are equally true, but separate and distinct, because philosophical knowledge derives from rational analysis of human experience alone, whereas theological knowledge derives exclusively from divine revelation. The bishop of Paris, Stephen Tempier, condemned the position of the Averroists in 1270. Conservative critics associated Thomas with the Averroists because of his devotion to Aristotle, and he had to expend much energy in his final years to carefully distinguish his position from theirs.

In 1272 the Dominicans sent Thomas to Naples to set up a new *studium generale*, but at this point his health began to weaken. He died at the Cistercian monastery of Fossanova while on his way from Naples to Lyons to attend a church council summoned by the pope.

The principal writings of Thomas Aguinas include the Disputed Questions (1256–1272); the Summa contra gentiles (1259–1265), which provides a detailed defense of the philosophical validity of the Christian faith; and the Summa theologiae (begun in 1268 but unfinished at Thomas's death), which comprehensively synthesizes Thomas's rational investigation and logical demonstration of Catholic doctrine. When Tempier condemned the Averroists a second time in 1277, he explicitly included condemnations of several teachings from these works. However, Thomas had many posthumous supporters, including Albert the Great and the Italian poet Dante, who assigned him a privileged place in paradise. Pope John XXII had Thomas canonized in 1323. During the sixteenth century Thomas's Summa theologiae replaced Peter Lombard's Sentences as the standard textbook in the theology curriculum of European universities, where his work remained influential well into the 1600s. Thomism has enjoyed a revival since the late nineteenth century, thanks in part to a papal bull (decree) of 1879 encouraging study of Thomas's work, and his brilliant and rigorous application of Aristotelian arguments retains considerable interest for twenty-first-century philosophers.

Scott C. Wells

The secret of Happiness is Freedom, and the secret of Freedom, Courage. • Thucydides (D. C. 401 BCE)

### **Further Reading**

Chenu, M. D. (1964). *Toward understanding Saint Thomas*. Chicago: H. Regnery.

Dyson, R. W. (2002). *Aquinas: Political writings*. Cambridge, UK: Cambridge University Press.

Kretzmann, N., & Stump, E. (1993). *The Cambridge companion to Aquinas*. Cambridge, UK: Cambridge University Press.

McInerny, R. (1998). *Thomas Aquinas: Selected writings.* London: Penguin Books.

Persson, P. E. (1970). Sacra doctrina: Reason and revelation in Aquinas. Philadelphia: Fortress Press.

Rosemann, P. (1999). *Understanding scholastic thought with Foucault*. New York: St. Martin's Press.

Tugwell, S. (1988). Albert and Thomas: Selected writings. New York:
Paulist Press

# Thucydides

(d. c. 401 bce) Greek historian

Thucydides can be considered the "father of history." Thucydides wrote only one work, a history of the war fought in the fifth century BCE between the Athenians and the Spartans and their allies (432–404 BCE), generally known by its modern title, *The Peloponnesian War*. In this work Thucydides developed a rigorous historical method and set high standards for accuracy in historical research. He influenced not just the historians from the Greco-Roman world who were to follow him, but also the scholars of the nineteenth century, like Leopold von Ranke (1795–1886), laying the foundations for the modern professional study of history based on the principles of empiricism.

We know very little about Thucydides that he does not tell us himself. He states that he began work on his history when the war started. Although he refers to the end of the war, Thucydides did not live to complete his history. The narrative of *The Peloponnesian War* breaks off in the middle of 411 BCE, which led ancient biographers to speculate that Thucydides died a sudden death. Most scholars conclude that he died around 400 BCE, though there is disputed evidence that he was still working on his history as late as 397 BCE. His date of birth is conjectural too. Pamphila tells us that at the start of the Pelopon-

nesian war Thucydides was forty, and this is probably a fair guess, based upon his own remarks. Thucydides asserts that he was old enough to follow the course of the entire war and that he was elected as a general by the Athenians for a campaign in Thrace (in 424 BCE), but was exiled after failing to relieve the city of Amphipolis. He held rights to gold mines in the Thraceward area and was well respected there. He caught but survived the plague of 430–426 BCE, which he described in great detail. His father's name was Olorus and he came from the deme (smallest political unit in Athens, used to identify citizens) Halimous. Marcellinus (who wrote a biography of Thucydides) says that Thucydides' mother's name was Hegesipyle; the name of his father is identical with that of a Thracian prince whose daughter, also named Hegesipyle, married an important Athenian aristocrat named Miltiades. Thucydides was thus related to important members of the Thracian and Athenian aristocracies, including his Athenian namesake Thucvdides, the son of Melesias. Plutarch tells us that Thucydides' tomb was in the Athenian suburb of Koile Meletides, next to those of Miltiades and Cimon's sister Elpinice. Thucydides had one son that we know of, named Timotheus.

The Peloponnesian War is structured chronologically, with each year of the war described by summer and winter. Since Hellenistic times, the work has been divided into eight books (though in antiquity other divisions were made, including division into thirteen books). Book 1 includes the Archaeology, a brief survey of Greek history down to the Persian wars, the Pentecontaetia, a brief outline of events from the end of the Persian wars (described by Herodotus) to the start of the Peloponnesian War, and a lengthy introduction on the causes of the war. Books 2–4 describe the first ten years of the war (known as the Archidamian War). In Book 5 are the Peace of Nicias, the Mantinean War, and the subjugation of Melos (which includes the Melian Dialogue). Books 6-7 describe the Sicilian campaign and the renewal of hostilities in Attica, and in Book 8 the Ionian War and the revolt of many of Athens's allies are described. The narrative of the Peloponnesian War was completed by Xenophon, who, in the Hellenica, takes up his account at the exact point where that of Thucydides finishes.

# Selection from Thucydides's The History of the Peleponnesian War

In the extract below, Thucydides recounts a portion of Pericles's famous funeral oration memorializing the Athenian soldiers who died in battle during the first year of the civil war between Athens and Sparta (431 BCE).

Our form of government does not enter into rivalry with the institutions of others. We do not copy our neighbours, but are an example to them. It is true that we are called a democracy, for the administration is in the hands of the many and not of the few. But while the law secures equal justice to all alike in their private disputes, the claim of excellence is also recognized; and when a citizen is in any way distinguished, he is preferred to the public service, not as a matter of privilege, but as the reward of merit. Neither is poverty a

bar, but a man may benefit his country whatever be the obscurity of his condition. There is no exclusiveness in our public life, and in our private intercourse we are not suspicious of one another, nor angry with our neighbour if he does what he likes; we do not put on sour looks at him which, though harmless, are not pleasant. While we are thus unconstrained in our private intercourse, a spirit of reverence pervades our public acts; we are prevented from doing wrong by respect for the authorities and for the laws, having an especial regard to those which are ordained for the protection of the injured as well as to those unwritten laws which bring upon the transgressor of them the reprobation of the general sentiment.

Source: Thucydides. (1900). The history of the Peleponnesian War (B. Jowett, Trans.; Book 2, p. 127ff). London: Oxford University Press.

Thucydides wrote his narrative prose in a clear, austere style. His historical methodology was innovative, and he drew a distinction between his research methods and those of his predecessors, criticizing Hellanicus by name, and by implication, Herodotus too. He tells us that he took great care to ascertain the truth about events by finding reliable witnesses, did not even rely on his own observations, and took into account just how unreliable or partisan his witnesses may have been. He also declares that he has designed his history for posterity, not just for the pleasure of the listener (in his day histories were read aloud to an audience) or to win a particular competition.

Thucydides is famous for the set speeches that he included in his history. These are highly rhetorical, making use of complex abstract expressions and antitheses that often obscure their meaning. Here we see the results of his training under Antiphon, with the rhetoric also owing a great deal to the influence of the sophist Gorgias. It has been argued that these speeches are Thucydides' own free compositions, based upon what he deemed appropriate for the speakers to say in the circumstances. Thucvdides himself claims that they were based on what had actually been said, while paradoxically admitting that he made each speaker say what he himself thought that speaker ought to have said.

Thucydides focused his history on war and politics establishing these as first and foremost the subject for history. However, in describing the suffering caused by war and the way in which war destroyed the morals of a society, Thucydides moved from narrative of the particular to a general exploration of human nature that makes his history an invaluable possession for all time.

Ian Plant

See also Greece, Ancient; Writing World History

# Further Reading

Blanco, W., & Roberts, J. T. (Eds.). (1998). Thucydides: The Peloponnesian War. New York: Norton.

Cartwright, D., & Warner, R. (1997). A historical commentary on Thucydides: A companion to Rex Warner's Penguin translation. Ann Arbor: University of Michigan Press.

Cawkwell, G. (1997). Thucydides and the Peloponnesian War. London: Routledge.

Connor, W. R. (1984). Thucydides. Princeton, NJ: Princeton University Press.

Crane, G. (1996). The blinded eye. Lanham, MD: Rowman & Littlefield Publishers.

Crane, G. (1998). Thucydides and the ancient simplicity: The limits of political realism. Berkeley: University of California Press.

Finley, J. (1942). Thucydides. Cambridge, MA: Harvard University Press. Gomme, A. W., Andrewes, A., & Dover, K. J. (1945-1981). An historical commentary on Thucydides. Oxford, UK: Oxford University Press.



Hornblower, S. (1987). Thucydides. Baltimore: Johns Hopkins University Press.

Hornblower, S. (1996). A commentary on Thucydides (2nd ed.). Oxford, UK: Oxford University Press.

Orwin, C. (1997). *The humanity of Thucydides*. Princeton, NJ: Princeton University Press.

Stadter, P. A. (Ed.). (1973). The speeches in Thucydides. Chapel Hill: University of North Carolina Press.

Stahl, H.-P. (2003). Thucydides: Man's place in history. Swansea, UK: Classical Press of Wales.

Strassler, R. B. (Ed.). (1998). The landmark Thucydides. New York: Simon & Schuster.

Thucydides. (1928). *Thucydides: History of the Peloponnesian War* (C. F. Smith, Trans.). Cambridge, MA: Harvard University Press.

Thucydides. (1972). *Thucydides: History of the Peloponnesian War* (R. Warner, Trans.). Harmondsworth, UK: Penguin.

# Timber

ince the Neolithic revolution, timber, with its many Ouses, has been an important commodity in the development of social life. Over world history from at least 3000 BCE onward, available forests have been used to meet the needs of an evolving world. Starting from the early urban communities, such as Egypt, Mesopotamia, and Harappa, timber has been a constant feature of economic life. Timber in its many forms has been used as a source of fuel and as a basic material for building construction, shipping, and storage purposes (for example, barrels). Besides those, timber was important to other aspects of human activity, such as in manufacturing and for the extraction of other resources such as coal and ore (timber beams were used in shoring up mine shafts) required in production processes. The level of timber utilization grew in proportion to increases in urbanization, commerce, and population. The increasing size of urbanized communities and growth in population often led to pressure to move resources to feed the growing population centers of the ancient world. Shipping was the normal mode of transportation of these resources. With growing levels of trade, the increase in maritime shipping resulted in further timber consumption. Exuberant lifestyles also developed, leading to the construction of extravagant buildings, such as palaces and temples, which often required timber for their construction.

These tendencies were pronounced as long as 4,500 years ago. In the riverine valleys of Mesopotamia and the Indus, the Mesopotamians and the Harappans deforested their own hills and mountains, and conducted military campaigns and trade relations with their neighbors to secure a constant wood supply in order to meet their economic needs. The Egyptians, for example, sought timber in neighboring areas of Lebanon and parts of the Syrian coast.

Timber utilization on a similar scale also was practiced in other parts of the world. About 2500 BCE in northern China around the Hwang Ho river basin and Southeast Asia timber was sought to meet socioeconomic needs. The use of wood intensified as the urbanization process progressed globally, with hinterland areas supplying the wood needs of the more economically transformed civilizations, empires, and nation-states. During different time periods, certain areas of the globe were the wood yards of other regions. For example, the North American forests and those of the Baltic shores provided the timber supply for northwestern Europe in the mid-seventeenth century. By the late twentieth century, parts of Africa, Asia, Latin America, northern Europe, and Russia became the main timber sources.

With the advent of agriculture and the urban revolution, deforestation has been a constant feature for at least the last 5,000 to 6,000 years. It is as old as the hills. This level of deforestation has reached epic proportions by the end of the twentieth century. The world's forests have shrunk by nearly half its size from 6 billion hectares 8,000 years ago to 3.6 billion hectares presently. According to the World Commission on Forests and Sustainable Development, forests have virtually disappeared in twenty-five countries, eighteen others have lost more than 90 percent of their forests, and eleven countries have lost 90 percent.

There is common agreement that deforestation has consequences for human communities. Negative outcomes such as soil erosion and the climatic changes that we are witnessing also occurred in the past. The "modern"

# Bamboo

Bamboo is a versatile plant (actually a grass) that has many indigenous uses throughout East, Southeast and South Asia and is an important import for the western world. The following excerpt describes how bamboo was used to build houses in rural Burma at the end of the 1800s.

The houses are usually marquee-shaped and consist of one or more rooms with the floor raised on posts seven or eight feet from the ground and another in front much lower and forming a kind of veranda, sometimes open in front. The poorer classes use posts of common wood or even of bamboo and make their walls of mats; the richer use Pyeng-ga-do (Xylia dolobriformis) or some other durable and more expensive timber and planked walls. The roof is sometimes composed of small, flat tiles but more generally of thatch; in some places of dhanee leaves soaked in salt water to protect them from the ravages of insects; in others of wa-khat, a kind of flat tile six feet long by two feet broad made of coarse bamboo matting; in others of bamboos split in half longitudinally and, with knots removed, placed side by side and touching each other with the concave side upwards, extending from the ridge to the eaves, over these is placed another series with the concave side downwards so that the roof looks like one of the elongated pan tiles; elsewhere the leaves of the Tsa-loo (Licuala peltata) or of the Taw-htan (Livistona speciosa): in some of the larger towns shingles are being introduced. The flooring consists of planking in better houses, and of whole bamboos laid side-by-side on bamboo cross-beams and tied with cane in the poorer.

Source: Gazetteer of Burma (p. 408). (1893). New Delhi: Cultural Publishing House.

problems of soil erosion leading to flooding and silting of rivers and canals also occurred in early Mesopotamia and had a severe impact on economic production. The effects of soil erosion and its consequences also appeared in northwestern India, China, Mycenaean Greece, and Minoan Crete, engendering pressures on these societies and civilizations. Deforestation also has engendered climate changes and precipitation. The removal of the forests cools the lower atmosphere while warming the ground surface. The reduction of evapotranspiration causes aridity. Forest loss also means that there is a reduction in carbon sequestration as the trees fix carbon and metabolize carbon compounds. This loss exacerbates the process of global warming. Recent studies have suggested that this process has been an ongoing for at least 6,000 years following the spread of agriculture that had facilitated the removal of the forests.

Sing C. Chew

See also Deforestation

# **Further Reading**

Chew, S. C. (2001). World ecological degradation (accumulation, urbanization, and deforestation) 3000 BC-AD 2000. Walnut, CA: Alta Mira Press.

Perlin, J. (1989). A forest journey. Cambridge, MA: Harvard University Press. Marchak, P. (1995). Logging the globe. Kingston, Canada: McGill/Queen's University Press.

Williams, M. (2003). Deforesting the earth. Chicago: University of Chicago Press.

World Commission on Forests and Sustainable Development. (1999). Our forests, our future. New York: Cambridge University Press.

# Time, Conceptions of

We all live in time, but we almost never ask ourselves about its nature. Moreover, people in the industrialized West are generally unaware that their typical understanding of time embodies a set of assumptions (for example, a linear "flow") that have changed throughout history, are not shared by all cultures, and are even fundamentally at odds with current science. Appreciating the diversity and evolution of cultural and scientific views of time requires a wide-ranging journey through history,

What is time? Who can explain this easily and briefly?...

Provided that no one asks me, I know. If I want to explain it to an inquirer, I do not know. • Saint Augustine (354–430)

and the interplay between the practical ability to measure time with clocks and the abstract concept of time itself will be a central theme.

# Cultural Understandings of Time

There are as many conceptions of time as there have been human cultures, but it is common to identify two kinds of time. First, there is linear time, a steady progression from the distant past to the far future. For some, this view is based on Christianity, in which time has a both a beginning at Creation and an end at Christ's second coming; for others, it is based on science, assuming a steady evolution both of knowledge and of life itself. Second, there is cyclical time, where the recurring motions of a clock or the stars do not merely mark off constant intervals, but indicate a repetition of human experience and history. A division between linear and cyclical is nevertheless overly simplistic, just as it would be to identify the linear with the West and the cyclical with the East. There is instead a continuum of emphasis, so that for example early Chinese writings identify both ji, the linear succession from ancestors to descendants, and li, repetitive cycles of death and rebirth in the natural world.

Both linear and cyclical time can be seen in any calendar, which reveals not merely the calculations by which a society numbers days and years but also something of how that society understands time itself. For example, the development of the Gregorian calendar is a fascinating thread through history, in which priorities, arguments, and human decisions are revealed in every detail: the names of the months, the date of Easter, and the contortions needed to keep synchrony with the orbit of the Earth. The Mayan calendar intricately interlocks a multitude of cycles, including the 365-day haab (the seasonal year) and the 260-day tzolkin (itself composed of overlapping cycles of 13 and 20 days), and lists auspicious and ill-fated days for a recurring round of secular and sacred tasks. Indian calendars compose an escalating hierarchy of scales in which a single day in the life of Brahma, the creator god, is equal to almost nine million human years.

Finally, we may also identify a third kind of time, common to many indigenous peoples including those of Australia, North America, and the Arctic. These cultures are often seen as timeless, sometimes on simplistic linguistic grounds. Yet their time may be strictly more intricate than clock time, incorporating a detailed understanding of natural cycles but adding social, spatial, spiritual, and even eternal dimensions.

#### The Value of Time

Early agrarian and seafaring communities were based on a daily and yearly round of chores governed by the land or the sea. There was little need for external or absolute time, only for a knowledge of the appropriate succession of tasks and of the cues to match this sequence to natural rhythms: sowing and harvesting or the ebb and flow of the tides. The duration of an interval was likewise reckoned not in hours, minutes, and seconds but by comparison with common experience: for example, the time taken for food to cook or to say a prayer, or even a "pissing while—a somewhat arbitrary measurement" (Thompson 1991, 356).

It is often assumed that public time consciousness began with the medieval "hours" of European monastic communities. This daily cycle of liturgical offices was announced by the ringing of bells, and may have been an important influence in the development of the mechanical clock. But hours originated with the Egyptians, who first divided night and day into twelve parts each. The monks only inherited this convention by way of the Greeks and the Romans, both of which used sundials and clepsydrae (water clocks) to order their society. Even the modern complaint against the tyranny of the clock is not new: "The gods confound the man who first found out how to distinguish hours. Confound him, too, who in this place set up a sundial, to cut and hack my days so wretchedly into small portions!" (Titus Maccius Plautus, c. 254-184 BCE).

There were three key factors in the escalation of time pressure through Western-led industrialization. The first was the development of labor as a commodity, which ascribed a new value to every hour of work for both

# Seasons and the Islamic Calendar

After the Popular Revolution of 1973-1974, author John Davis conducted fieldwork among the Zuwaya tribe of Western Cyrenaica, Libya. His account describing the Bedouin adaptation to state politics includes specific references to Islamic cultural and religious life. The following excerpt focuses on the marking of the passing year by the Islamic calendar in contrast to the Christian religious calendar.

The way of counting the passing days is itself a set of symbols: a numbering and grouping system which carries with it particular connotations and resonances. A lunar calendar with months named Jumadi, Ramadan, is Islamic because Muslims count the days of feasts and fasts and pilgrimages by it. It connotes the spiritual life, the duties of salvation, the community of the faithful whose religious life is ordered by the same sequence of days and months. A year of

twelve lunar months has 354 days, and lunar years therefore pass more quickly than solar ones. But it is the sun, not the moon, which determines the seasons; and harvests, sowing, the growth of new pasture, these are all related to solar time. A consequence is that lunar months are unrelated to the passing seasons; in relation to a fixed point in the cycle of seasons, the lunar months come two weeks or so earlier in each successive year.

'This year', a man may say, 'Ramadan will be hot'; and since Ramadan advances each year, coinciding with the maximum heat every twenty-five years or so, he can reasonably expect to endure two or three hot ones, two or three cool ones in his lifetime. Contrast that with the spiritual calendar of a Christian:

Whan that April with his shoures soote

The droghte of March hath perced to the roote,

employer and employee, and created a new distinction between work and personal time. The second was the proliferation of clocks and watches; by the end of the seventeenth century, timepieces were shifting from a luxury affordable only by the wealthy to a convenience available to all. The third factor was the rise of a work ethic which set a moral, commercial, and even theological value on industry and deprecated idleness. This was most famously and succinctly stated by Benjamin Franklin as "Time is money": Not only is time a currency which we choose how to spend, but wasted time is unearned money. Nevertheless, one might argue even in the modern age that this sentiment enshrines a capitalist, predominantly masculine view of time, and undervalues the continuing taskoriented round of domestic daily chores often carried out by women.

# From Solar Time to Coordinated Universal Time

As late as the turn of the nineteenth century, the only time that mattered was local time. Every town had its own time: Solar noon, when the sun is highest, shifts around one minute later for every twelve miles moved to the west (at the latitude of London). Moreover, this apparent solar time varies through the year because of the eccentricity of the Earth's orbit and the tilt of its axis, sometimes in front of and sometimes behind regular clock time.

The shift away from the sun as primary timekeeper began at the turn of the eighteenth century with the adoption of mean solar time (averaging out the variations of apparent solar time with a clock) and accelerated with the spread of the railways. Before rail, only mail couriers traveled far enough in a single day to encounter the variety of local times. The railway age brought the advent of rapid public travel, timetables, and telegraph cables beside the tracks, providing both motive and means for time to be standardized along the line. Railway companies disseminated their own standards, which were quickly taken up by public clocks; formal adoption of a single standard for legal purposes lagged decades behind. The situation was especially complicated in countries such as the United States, which had many competing interests and a wide geographical expanse.

We are so accustomed to time zones today that it is hard to understand the fierce debate engendered by their proposal as companies and cities fought for commercial and political supremacy. Charles Dowd, an educator from Wisconsin, proposed a zone system for U.S. railways And bathed every veyne in swich licour Of which vertu engendred is the flour; Whan Zephyrus eek with his sweete breeth Inspired hath in every holt and heeth The tendre croppes, and the yonge sonne Hath in the Ram his halve cours yronne, And smale foweles make melodye, That slepen al the nyght with open ye (So priketh hem nature in hir corages); Thanne longen folk to goon on pilgrimages.

Source: Davis, J. (1988). Libyan politics: tribe and revolution: an account of the Zuwaya and their government (pp. 65-66). Berkeley: University of California Press

in 1872, but it was not until 1883 that a proposal by William Allen, a U.S. senator, was finally adopted (smaller Britain had adopted Greenwich time much earlier, in 1840). Sandford Fleming, a Scottish-Canadian inventor and engineer, argued in 1876 for worldwide rationalization, setting out the key features of the system we use today. Inevitably, the same battles were fought as fiercely between nations, culminating in the Prime Meridian Conference of 1884, which adopted an international system of standard time zones, but more crucially selected Greenwich as the prime or reference meridian. It is well documented that commerce largely dictated this choice, in particular the dominance of shipping charts based on Greenwich, which harkened back to the seventeenth century, when British astronomers and clockmakers vied to solve the problem of determining longitude at sea.

In the twentieth century, ever more precise clocks began to reveal that the Earth's rotation was not completely regular. The first atomic clocks were developed in the 1950s, and in 1967 the international definition of the second was changed so that the cesium atom is now our primary timekeeper. Coordinated Universal Time is the modern descendant of Greenwich Mean Time, but refers instead to an international network of atomic clocks. Today we know the time without ever looking at the sun; we encounter jet lag as we fly from one time zone to another; and we know not only the time here but the time there: we know when the stock market opens in New York or in Tokyo and the difference between clocks in London and Paris.

### From Absolute to Relative Time

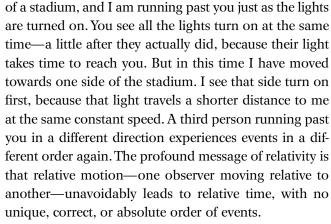
Study of the relationship between time and motion extends at least as far back as Greek philosophy. For example, to Plato time was "the moving image" of an ideal static eternity, manifested in and even brought into being by the motion of celestial bodies. Aristotle questioned this identity, seeing time rather as a "numbering" of motion, dependent on perception of change. Augustine, drawing on this tradition, suggested that this perception implies a human observer, who by memory and expectation may circumvent the apparent fact that only the present is in any sense real.

With the invention of the mechanical clock, the regular motion of the heavens could be represented in miniature—figuratively, but also directly, as public clocks by the late fourteenth century might also elaborately display the phase of the moon or the movement of the planets. It is then only a short step to a view of the whole universe as a clockwork machine, put forward for example by Kepler and Boyle and a key feature of the seventeenth century scientific revolution. Newton, developing the views of Isaac Barrow, famously stated at the beginning of Principia that "absolute, true and mathematical time, of itself, and from its own nature, flows equably without relation to anything external." Both the stars and the clock merely count off the flow of this absolute time, which may be represented geometrically by a straight timeline with each point a single instant.

Leaving aside philosophical disputes, Newton's definition survived unchallenged for over two hundred years, until Einstein. Einstein's theory of relativity begins with two postulates: Physical laws should not depend on any motion of the observer, and the speed of light is the same for all observers. The second jars with everyday

A Kiowa (Native American) calendar of pictographs on a bison skin. The bars and attached figures in the center form a winter count while the figures near the edges provide a history of 37 months during the 1890s.

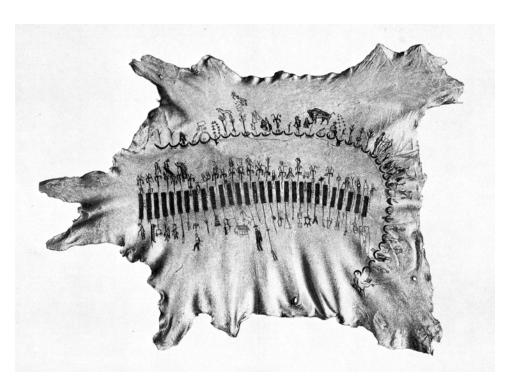
experience: As a car accelerates away from a standstill, its speed over the ground increases but the speed of the light from its headlights does not. It also has far-reaching consequences. Imagine that you are standing in the center



Relativity has still stranger consequences. Time passes at a slower rate for a moving observer; if one of two twins takes a rocket trip, he will be younger than his brother when he returns, and the faster he travels the less he will age. Time similarly slows as gravity increases, so that clocks tick slower on the ground than they do in orbit. These bizarre predictions of Einstein's theory have been verified to extraordinary accuracy by experiment, and they even impact on modern life: For the Global Positioning System to provide accurate navigation, the satellite atomic clocks must be corrected for these effects.

### Scales of Time

Science has revolutionized our understanding of the scale of time as well as its nature. In antiquity, anything



shorter than a heartbeat was the realm of philosophy, anything longer than a lifetime that of history, religion, or myth; both were inaccessible. Authors of medieval computus texts (notably Bede, the Benedictine monk) speculated on the smallest part into which a day might be divided, but were principally concerned with calculating the date of Easter. At the other end of the scale, Archbishop James Ussher of Armagh deduced around 1650 that the universe was created in 4004 BCE on Saturday 23 October at 6 P.M. Other cultures incorporated much longer epochs in their chronology, for example the Mayan and Indian cycles already noted, but these figures were largely simple mathematical progressions of shorterscale calendars.

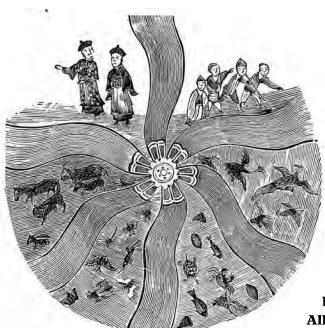
Today the range of time intervals open to direct study has widened dramatically. Modern technology slices time ever finer: Races are timed to thousandths of a second, atomic clocks are synchronized across the globe to billionths of a second, and the fastest laser pulses open a window to timescales shorter than one femtosecond (a millionth of a billionth of a second). In the realm of "deep time," the age of the Universe is believed to be around thirteen billion years, of the Earth around four and a half billion years, and of our hominid ancestors over seven million years (this is still much discussed as new fossils are found). These figures draw on advances in geology, palaeontology, astronomy, and cosmology, which were Time flies, as he flies, adds increase to her truth, And gives to her mind what he steals from her youth. • Michael Eyquen de Montaigne (1533–1592)

only refined through the nineteenth and twentieth centuries.

#### **Personal Time**

In the late nineteenth century, researchers began trying to understand the biological processes that embody our personal consciousness of time. Great progress has been made in characterizing human biological cycles, including the well-known circadian rhythms that have a period of approximately one day, and using this knowledge to advantage; for example, the effectiveness of drug treatments can vary significantly with the time of day. Cellular and physiological processes that underpin a multitude of personal "clocks" are yielding their secrets, including mechanisms for synchronizing body functions with the environment (a built-in clock) and a separate interval timer for estimating elapsed duration (a built-in stopwatch). Neurological research can identify the areas of the brain that are important for human memory, whereby both the time stamp attached to a specific event and the chronological sequence based on these time stamps can be stored and retrieved.

Nevertheless, a real understanding of human time consciousness—particularly the great variation in the



rate at which we can experience the subjective passage of time—remains elusive. It is also particularly ironic that these new insights come at a time when for many life is increasingly separated from natural cycles: For example, shift work, twenty-four-hour shopping, and even airconditioning or electric lighting all blur our link to environmental time.

#### The Future

The rate of improvement in our ever-advancing ability to measure time is roughly exponential. The day is the same length now as it ever was (at least, to a very good approximation), but accelerating social change makes time seem in shorter supply and consequently much more precious. Many authors argue that a kind of liberation from slavery to clock time is needed, repeating a challenge heard as early as Roman times and which has frequently recurred through history and literature since then.

Clocks underpin much of our modern infrastructure, from telecommunications to electricity distribution to electronic trading to satellite navigation. We take for granted a technical mastery over time, yet time is ultimately as much of a mystery as ever. As sociologist Michael Young put it, "We can delude ourselves that we know what time is because we know what time it is" (245). The future of time itself will surely yield as much color and change as has its past.

**Bruce Warrington** 

See also Periodization, Conceptions of

# **Further Reading**

Saint Augustine. (1991). Confessions Book XI: Time and Eternity (H. Chadwick, Trans.). Oxford: Oxford University Press.

Blaise, C. (2000). Time lord: Sir Sandford Fleming and the creation of standard time. London: Weidenfeld and Nicolson.

Cipolla, C. M. (1978). Clocks and culture 1300–1700. New York: Norton.

The transmigration wheel of Buddhism showing the six positions of insects, fish, birds, animals, poor men, and mandarins. All creatures travel through the six paths.

Look at a man the way that he is, he only becomes worse. But look at him as if he were what he could be, and then he becomes what he should be. • GOETHE (1749-1832)

Dohrn-van Rossum, G. (1996). History of the hour: Clocks and modern temporal orders (T. Dunlap, Trans.). Chicago: University of Chicago Press.

Duncan, D. E. (1998). The calendar. London: Fourth Estate.

Galison, P. (2003). Einstein's clocks, Poincaré's maps. London: Sceptre. Gould, S. J. (1987). Time's arrow, time's cycle: Myth and metaphor in the discovery of geological time. Cambridge, MA: Harvard University Press.

Griffiths, J. (1999). *Pip pip: A sideways look at time*. London: Flamingo. Hawking, S. (1988). *A brief history of time*. London: Bantam.

Howse, D. (1980). Greenwich time and the discovery of the longitude. Oxford: Oxford University Press.

Landes, D. S. (2000). Revolution in time: Clocks and the making of the modern world (Rev.Ed.). London: Viking.

Lippincott, K. (Ed.). (1999). The story of time. London: Merrell Holberton.

A matter of time. (2002, September). Scientific American, 287(3).

McCready, S. (Ed.). (2001). The discovery of time. London: MQ Publications.

Sobel, D. (1996). Longitude. London: Fourth Estate.

Thompson, E. P. (1991). Time, work discipline and industrial capitalism, in Customs in common. London: Penguin.

Waugh, A. (1999). Time. London: Headline.

Whitrow, G. J. (1988). Time in history: Views of time from prehistory to the present day. Oxford: Oxford University Press.

Young, M. (1988). The metronomic society—natural rhythms and human timetables. London: Thames and Hudson.

# Timur

(1336 - 1405)

TURKIC CONQUEROR

Timur-i Leng (Timur the Lame), also known in English as Tamerlane or Tamburlaine, was the last of the great nomadic emperors. His detractors called him Timur-i Leng because his right arm and leg were paralyzed from arrow wounds received during a raid in his youth. During his reign, however, he was known as Emir Timur, and he engaged in a career of conquest that took him from India to Turkey and that shook the foundations of several empires.

Born near Kesh (now Shakhrisabz, in Uzbekistan), near Samarqand in 1336, Timur was the son of Taragai of the Barlas tribe, a tribe of Mongolian origins but thoroughly Turkic in ethnicity by Timur's lifetime. Timur began his career as a minor leader and sometimes bandit during the unrest that marked much of Central Asia during the mid-fourteen century.

With the collapse of the Chagatai khanate, a successor state of the Mongol empire that covered most of Central Asia, new opportunities arose in the region. Timur took advantage of the situation and became the lieutenant of his brother-in-law Husain. The two gained control of Mawarannahr (Arabic for "the land between the rivers," —the rivers being the Syr Dar'ya and Amu Dar'ya), or Transoxiana, before a falling-out pitted them against each other in 1370, with Timur emerging as the victor.

After becoming the ruler of Mawarannahr, Timur spent the following ten years consolidating his control in the region and defending it from raids by the remnants of the Chagatai khanate in what is now Kazakhstan and Xinjiang (northwestern China). In 1380 Timur supported Toqtamysh, a prince of the Golden Horde (another successor empire to the Mongol empire; it controlled the area of present-day Russia and Ukraine), in Toqtamysh's bid to rule the Golden Horde.

Not until 1383 did Timur attempt to expand his realm beyond Mawarannahr, sending his forces across the Amu Dar'ya into Persia. By 1385 Timur had incorporated the regions of Khorasan (which is now present-day northeastern Iran and surrounding areas of Afghanistan), Afghanistan, and eastern Persia (Iran) into his realm, and by 1394 the regions of Fars (present-day southwestern Iran), Iraq, Azerbaijan, Armenia, and Georgia had succumbed to his armies as well. Timur rarely established an effective administrative apparatus in his conquered territories, apparently preferring plundering territory outside of Mawarannahr to governing it effectively.

Meanwhile, Timur's protégé Toqtamysh, now the ruler of the Golden Horde, decided to challenge Timur's authority. As a descendent of Genghis Khan, Toqtamysh viewed himself as the rightful ruler of all the lands that the Mongol empire had once comprised. Toqtamysh defeated Timur's generals during invasions in 1385 and 1388; Timur retailiated by invading the Russian steppes in 1391. Although Timur defeated Toqtamysh and dethroned him, Toqtamysh regained power and invaded Timur's empire again in 1395. Timur in turn struck back, defeating Toqtamysh once and for all on the Kur River in 1395 and proceeding to break the power of the Golden Horde.

Timur did not incorporate the Golden Horde into his empire, preferring to place a puppet ruler on the throne. Not content with his victories in Persia and the Russian steppes, Timur invaded India in 1398, justifying his actions—as he did for many campaigns—on religious grounds. In the case of the destruction of the sultanate of Delhi, he justified his actions on the grounds that Sultan Mahmud Tughluq was excessively tolerant of his Hindu subjects. In the wake of the sack of Delhi, Timur's army carried an immense amount of wealth back to his capital at Samarqand.

Timur did not stay long in his capital. In 1399 he marched west, his eye on both the Mamluk sultanate (in Egypt and Syria) and the Ottoman empire (in Anatolia, modern Turkey). Both states had either supported enemies of Timur or threatened his clients. After putting down a rebellion in Azerbaijan, Timur invaded Syria in



1401 and defeated the Mamluks, sacking Aleppo and Damascus in the process. Timur then invaded Anatolia and defeated the Ottoman army at Ankara in 1402; his capture of the Ottoman sultan Bayezid I left the Ottoman empire in turmoil.

With his western frontier secure, Timur returned to Samarqand in 1404, where he began planning for an invasion of China (at that time ruled by the Ming dynasty). The invasion ended prematurely in 1405, when Timur died at the city of Otrar. His empire, held together primarily through the force of his will, quickly disintegrated into smaller states ruled by his sons and grandsons.

In the annals of world history, Timur is remembered most for his conquests and cruelty. He orchestrated many massacres and left numerous towers of skulls as reminders to the conquered. Although illiterate, Timur was noted for being very intelligent, an expert chess player, a fluent speaker in several languages, and well versed in the art of debate. Furthermore, Timur dramatically impacted five states. His defeat of the Ottomans made it possible for the Byzantine empire to survive fifty years longer than it might have otherwise, as Bayezid had planned to attack Constantinople before being defeated by Timur. The defeat of the Mamluks, while not destroying them, exposed the slow decay of their once grand military might. By defeating Toqtamysh, Timur eroded the strength of the Golden Horde and accelerated the end of nomadic dominance over the principalities of Russia. Although he sacked Moscow, then a small town, Timur's defeat of Toqtamysh actually contributed to that city's rise. His destruction of Delhi, on the other hand, was the death knell for the sultanate of Delhi. Although Timur's empire disintegrated after his death, Timur's descendents established the Mughal empire in India, supplanting the sultanate of Delhi.

Timothy M. May

See also Steppe Confederations

Timur leading his troops.



### Further Reading

Arabshah, A. (1936). *Tamerlane or Timur the great amir.* Lahore, India: Progressive Books.

Clavijo, G. (1928). Embassy to Tamerlane. London: George Routledge & Sons.

Hookham, H. (1962). Tamburlaine the conqueror. London: Hodder & Stoughton.

Manz, B. F. (1991). The rise and rule of Tamerlane. New York: Cambridge University Press.

Nicolle, David. (1990) Mongol Warlords Ghenghis Khan, Kublai Khan, Hulegu, and Tamerlane. New York: Sterling.

# Tobacco

See Drugs

# **Totemism**

Totemism is the positing of an association between a system of social divisions and a system of objectifications. An example close to home is the association of the Democratic Party and the donkey, coupled with that of the Republican Party and the elephant. Crucial here is the expression *coupled with:* Involved are not two separate associations but rather a system of associations. This is the conclusion of the French anthropologist Claude Lévi-Strauss (b. 1908), drawing heavily on the ideas of earlier scholars.

# **Clan Systems**

The word *clan* in everyday English usually pertains to a collectivity of people whose members are assumed to be related by blood and/or marriage: The emphasis is on people, not ideology. Anthropologists have employed the same term in their studies of "tribal" communities, but here just the opposite is true: The emphasis is on ideology, with the people "in" the clans often being treated as aspects of ideology. Consider the following from research in a part of Aboriginal Australia, where native theorizing about human social and conceptual life has provided

anthropologists with the bulk of their ideas on clanship and totemism.

Everyone is a member of one or another of a large number of clans, usually the clan of his or her father. The number fluctuates historically: Some clans are known only by name, others have only one or two female members, who could not, according to local custom, transmit membership to their children. Clans of the latter sort, presumably, will be the ones known to future anthropologists by name only, and those of the former sort will be unknown to both anthropologists and the Aboriginal people. The older men of each clan control certain sacred objects (totems), the myths that describe the origins of these objects during the Creative Period (Dreamtime), and the right to transmit the knowledge to the younger men of the clan and to men of other clans.

Some totems, but not all, take animal form in myth: Rock Python, Crayfish, and Duck are examples, but there are also the Wagilak Sisters (who appear to be human females) and the Mast of the Indonesian Ship (a supposedly inanimate object whose memory is metamorphosed from centuries of commercial contact with Asians to the north). However, the animate-inanimate and the animal-human dichotomies are not important in Aboriginal myth, wherein animals become humans (and vice versa), and inanimate objects are animated (and vice versa). The textbook notion that totems are necessarily animals or plants misses this point and, moreover, feeds into the romantic (and false and racist) idea that Aboriginal Australians and other "tribal" people see themselves as, literally, kin to or descended from natural forms.

# Subject-Object-Subject Transformation

As noted, in Aboriginal Australian myth, totems metamorphose from one form to another and back. This transformative ability is crucial to a comprehension of clan totemism because it connects the Dreamtime to the Present Order. During and especially at the end of every myth, Dreamtime Beings either die or deposit body emanations—words, footprints, feces, droppings of menstrual blood, and so forth—at particular sites. These



Greek man with some worry beads, a short string of brightly colored beads one keeps in order to ward away misfortune.

Especially significant here is the notion that existing human beings are consubstantial (of the same substance) with Dreamtime Beings. Some readers will immediately see a parallel with the Roman Catholic Mass, wherein, by consuming the wine and wafer, present-day followers are said to be one with Jesus, who promises eternal life. Further parallels

exist. Jesus is supposed to have led a "sinless"—that is, asexual—life. By contrast, in myth Dreamtime Beings sometimes copulate with each other, but their important creative acts are asexual: the formation of the landscape and the beginning of an endless cycle of reincarnation. Moreover, in Roman Catholic theology Jesus is called the "Second Adam" (the "anti-Adam," one might say), whose "sinlessness" and subsequent violent death compensate for the sexual indulgence of the First Adam. Similarly, in Aboriginal Australia, totemism and sex are not supposed to be mixed in discourse. Finally, the voluntary externalization or-better-giving of oneself by Dreamtime Beings has a fairly stark parallel to the central redemptive act of Christian theory. The conclusion is inescapable that, far from being a kind of "kinship group," as established anthropology would have it, Aboriginal Australian clans are more penetratingly seen as "antikinship groups" because theirs is the denial of death and the minimization of sexual generation.

tions their transformed feces, deposits of red clay their similarly transformed menstrual blood. The sites also contain the spirits of aspects of these beings, which await reincarnation in the form of freshly conceived children, which is, of course, to say that these spirits never die and that new human beings are reincarnations of Dreamtime Predecessors. The bodies of newborns may be creatures of sexual intercourse, but their spirits are eternal. Hence, at death these latter return to their landed sources, and the cycle is repeated. The expression *subject-object trans*formation has been coined to refer to the metamorphosing of Dreamtime Beings into features of the landscape, that is, to the objectification of primeval subjects. A better expression is subject-object-subject transformation (SOST): It calls attention to the endlessly cyclical nature of the process, wherein what was in the beginning is and will always be-what one astute observer has called an

sites are deemed sacred because they contain the very

essences of these beings: Crevices in the ground may be

said to be their metamorphosed footprints, rock forma-

### Totemism, Death, and Sex

"Everywhen."

Aboriginal Australian clan totemism is thus what anthropologists call an "afterlife ideology," and, as such, its differences with the animal symbolization of our two major political parties are at least as profound as its similarities.

#### Totemism Elsewhere

This, then, is a new theory of totemism. It builds on existing theories only to depart radically from most of them and raises the question, "Does this analysis apply outside Australia and particularly to other clan systems?" Some facts indicate that it does. A review of clanship among Native North Americans observes that "there is often

Mysticism has been in the past and probably ever will be one of the great powers of the world and it is bad scholarship to pretend the contrary. You may argue against it but you should no more treat it with disrespect than a perfectly cultivated writer. • WILLIAM BUTLER YEATS (1865-1939)

evidence that the members of a clan consider themselves not linked by reason of the relationship through their mother or father, as the case may be, but by reason of their relationship to a clan bundle or fetish . . ." (Tooker 1971, 360). Note the minimization of kinship and the emphasis on "relationship to a clan bundle"—comparable to an Aboriginal Australian totem, although perhaps without the emphasis on landscape and SOST.

Some materials from the southern half of the Western Hemisphere are even more intriguing. The Bororo natives of Brazil divide each of their villages into eight clans, each one located in a predetermined position in the village circle and associated with several totems. The emphasis on eight clans—no more and no less—is so strong that, should the human membership of a clan die out in any village, people may change clans so as to reconstitute the extinct unit. Otherwise, a person belongs to the clan of his or her mother, although the Bororo themselves vehemently reject this formulation. Instead, they insist that the name that a person is given in childhood determines spiritual identity and clan affiliation and that name just happens to be one associated with the mother's clan. Moreover, a person takes the name of a certain kinsperson, and on the day of the naming ceremony this person is expected to refrain from sexual intercourse.

Differences exist between Australian Aboriginal people and the Bororo. Among the latter the number of clans is fixed, and the clans are—or seem to be—matrilineal (tracing descent through the maternal line). However, striking parallels exist. Especially important is the bodyspirit distinction in both cases, particularly the resistance to mixing the two discourses. Also, in both cases spiritual generation is accomplished by emanation from the body —naming among the Bororo, naming in conjunction with other modes among Australian Aboriginal people. (Compare biblical emanation: God created the world by naming; Jesus is often referred to as "The Word.") Even the differences can be overstated: Among Australian Aboriginal people the clans are often clustered into a fixed number of sets (four, not eight), and researchers have suggested that the bodily principle of affiliation to clans—the father-child tie—is largely a historical derivative of affiliation by a more spiritual principle. Finally, both cases show a decidedly hostile attitude to history.

## **Totemism and History**

Like everything else, totemism has a history: Witness the depopulation of Bororo clans and the employment of the mast of an Indonesian ship in Australian Aboriginal totemism. However, totemism denies the significance of history: Extinct Bororo clans are reconstituted, and Indonesian contact in northern Australia, begun around 1500 and ended in 1906, is treated as an eternal event. A logical connection exists between totemism's antihistorical attitude and its antisex stance because sex generates kinship, and kinship, like history, does not endure. Totemism makes use of the flotsam and jetsam of history, only to cast it in an ahistorical mode.

# **Implications**

Thus, clan totemism is a far cry from donkeys and elephants and even further from the textbook renditions "assumed descent," "descent from animals," and "kinship with animals." Clan totemism is, in fact, the very antithesis of these latter, the denial of the significance of kinship. However, other forms of totemism exist in the "tribal" world, and many of these do seem to have the strictly emblematic significance of donkeys/elephants. For example, in Aboriginal Australia four- and eight-part systems of categories cross-cut the clans and can operate independently of them, and these have only emblematic totems. Yet, a marked historical tendency exists for these systems to be subsumed under the four-part divisions of clans noted earlier and to take on the important characteristic of consubstantiality. We can see something comparable closer to home. Consider, for example, North American baseball teams. Some have animal names (Tigers, Blue Jays), others not (Dodgers, Mets), but all have an emblematic relationship to their names. But is it strictly emblematic? Probably no fan of the Detroit Tigers would ever explicitly claim consubstantiality with some primeval (relating to the original model of which all things of the same type are representations) feline. Then what sense can we make of the marked tendency for such



fans to refer to the team they root for with the inclusive pronoun we—without, surely, any suggestion of sexual connection?

Warren Shapiro

### Further Reading

Crocker, J. C. (1985). Vital souls: Bororo cosmology, natural symbolism, and shamanism. Tucson: University of Arizona Press.

Eliade, M. (1959). Cosmos and history: The myth of the eternal return. New York: Harper.

Leach, E. R. (Ed.). (1967). The structural study of myth and totemism. London: Tavistock Publications.

Lévi-Strauss, C. (1966). The savage mind. London: Weidenfeld and Nicolson

Maybury-Lewis, D. H. P. (Ed.). (1979). Dialectical societies: The Gê and Bororo of central Brazil. Cambridge, MA: Harvard University Press.

Munn, N. D. (1970). The transformation of subjects into objects in Walbiri and Pitjantjatjara myth. In R. M. Bemdt (Ed.), Australian Aboriginal anthropology: Modern studies in the social anthropology of the Australian Aborigines (pp. 141–163). Nedlands, Australia: University of Western Australia Press.

Phillips, J. A. (1984). Eve: The history of an idea. San Francisco: Harper & Row.

Shapiro, W. (1977). Structure, variation, and change in "Balamumu" social classification. *Journal of Anthropological Research*, 33(1), 16–49.
 Shapiro, W. (1979). *Social organization in Aboriginal Australia*. Canberra, Australia: Australia National University Press.

Shapiro, W. (1988). Ritual kinship, ritual incorporation, and the denial of death. Man 23, 275–297.

Shapiro, W. (1991). Claude Lévi-Strauss meets Alexander Goldenweiser: Boasian anthropology and the study of totemism. American Anthropologist, 93, 599–610.

Stanner, W. E. H. (1958). The Dreaming. In T. A. G. Hungerford (Ed.), Australian signpost: an anthology (pp. 51–65). Melbourne: F. W. Cheshire

Tooker, E. (1971). Clans and moieties in North America. Current Anthropology, 12, 357–376.

Warner, W. L. (1937). A black civilization: A social study of an Australian tribe. New York: Harper.

Worsley, P. M. (1997). Knowledges: Culture, counterculture, subculture. London: Profile Books.

# Tourism

Although historical researchers often trivialize tourism, other scholars regard tourism as a major component of our modern consciousness. It is not only reflective of the worlds in which we live, but also has

become an important factor in the actual construction of those worlds and their histories.

Any account of the history of tourism begs definition. What is the relationship of tourism to other kinds of travel? What particular activities and human relationships define the act of tourism? The scholarship of tourism has most often related tourism to leisured activities and desires—simply enough, tourism is the practice of leisure in places away from one's home. In this respect the advent of tourism is conveniently pegged to those times in the past when people began to travel solely for the purpose of engaging in some kind of leisured activity. Western scholars have until recently tended to place early expressions of tourism within the fold of relatively recent European discoveries of leisure, giving some credence to the religious pilgrimage as a precursor to tourism, accepting the elite standards of the European "Grand Tour" as the first clear model of a fully leisured tourism, and situating the roots of modern tourism in the late nineteenth-century development of mass and package tourism, founded by the English travel agent Thomas Cook and numerous other capitalist entrepreneurs.

The difficulty with this view is not that it is wrong, because a history of tourism along these lines is clearly defensible, but rather that it has limited our search for other, equally persuasive lines of inquiry. Fortunately, recent research has broadened our perspective and introduced promising new research possibilities.

# Tourism History in International Perspective

Most of the literature devoted to the history of tourism is concerned with travel by people of Europe and North America, to the extent that one might be forgiven for assuming that tourism is itself an invention of Western consciousness. Although comparisons are risky, recent studies of the development of European tourism seem generally to focus on the movement of ideas through touristic practices such as the Grand Tour and later spa and resort destination tourism. These studies tend to be concerned with the development of concepts of leisure and "holiday" and with social class and political

# Climbing Mount Everest

Tourists and the local people who serve them often have very different conceptions of tourist activities. The follow text indicates that for Sherpa guides in Nepal, guiding tourists up and down Mount Everest is just a job and the mountain itself a source of income.

Eight of Khumbu's most experienced and illustrious sardars unanimously agreed that virtually the only reason they climb is that they need the high income they cannot earn any other way. As one put it, if he had the education to qualify for a good office job, he would unhesitatingly choose that line of work. Sherpas see no intrinsic point in climbing; neither fame (though that is welcome since it helps them get their next climbing job more easily; it also accounts for the

multiple ascents of Everest), nor challenge, nor adventure. Climbing is simply a high-paying job. None of the eight sardars expressed much enthusiasm for a hypothetical all-Sherpa expedition because they could not imagine any earnings accruing from it. Even though they enjoy the camaraderie and the scenic views and take pride in a job well done, these reasons alone would never motivate them to move up a mountain. Plans for a 'First Sherpa Youth Mt. Everest Expedition 91' indicate contrary sentiments, but if skilled Sherpa climbers are paid on such an expedition, the view of the eight sardars will stand unchallenged.

Source: Fisher, J. F. (1990). Sherpas: Reflections on Change on Himalayan Nepal (p. 129). Berkeley and Los Angeles: University of California Press.

transitions in cultural expressions associated with tourism, such as the evolution of "sightseeing" and changes in recreational practices. Although sharing many of these interests, most recent studies in the history of tourism that are focused on the North American experience tend to pay more attention to the historical consequences of particular tourism destinations, such as the eighteenth- and nineteenth-century establishment of U.S. spas and resorts, and the designation of natural and wilderness environments as tourist sites. Much of this research has been devoted to the conceptualization of place in relation to patterns of tourism consumption and marketing, as well as to features associated with the movement from home and work places to leisure places through travel innovations, particularly the expansion of railroads and later the advent of automobile touring.

The relative lack of literature devoted to the histories of tourism in other parts of the world poses an obstacle to our ability to appreciate the significance of contemporary touristic patterns from varied cultural and national perspectives. People have had a tendency to interpret other tourism traditions as attempts to emulate or mimic presumably earlier-occurring Western patterns. Thus, for example, some scholars have explained contemporary Japanese tourism behaviors, such as a penchant for souvenir collecting, photographing, and staying close together in a fairly regimented manner, as exaggerated displays of tourism behaviors invented in the West. However, we now have sufficient research, particularly devoted to the evolution of Japanese pilgrimage traditions, on which to base our understanding of contemporary Japanese tourism behaviors on practices established in Japan well before the advent of modern tourism in Europe.

A growing but still scant literature related to the histories of tourism in Asia and the Middle East, as well as in indigenous America, can be gleaned from studies of leisure practices and travel traditions associated with pilgrimage and trade in those parts of the world. Studies of travel history related to such places as China and India have, for example, provided insight into the relationships between tourism and leisure practices that appear to precede the development of similar practices in Europe. Similar research has also offered insight into historical relationships between tourism cycles and periods of regional security and prosperity—suggesting that various "golden ages" of tourism expansion might be found in the histories of ancient China, India, the Middle East, and Greece and Rome.

This discussion brings us to caution against the almost exclusive association of tourism with leisured activity. It seems increasingly clear that, around the world, tourism finds its roots in other locally positioned and culturally conditioned occasions for travel, such as pilgrimages, festivals, seasonal hunting and resource extraction, trade and business encounters, and travel to fulfill a variety of social obligations. Although we may well associate a measure of homogenizing effects with the more recent capitalization and globalization of some modern tourism practices, it is just as likely that contemporary local and even national tourism behaviors and preferences still owe much to the touring histories of specific places.

# Variants of Class, Gender, and Race

A popular conception of the origins of modern tourism has linked tourism history almost exclusively to preceding elite travel traditions. In the West this conception has drawn our attention to such phenomena as the European Grand Tour, particularly with the seventeenth-to-nineteenth-century travels of wealthy English and French people to "high culture" places in southern Europe and to some extent also to the "Orient" of Near Eastern locales. Emphasis on this precursor to modern tourism is understandable. Elite partakers of the Grand Tour were encouraged to keep self-revelatory accounts of their travels, and their journals and books represent a major contribution to the literature of tourism, helping in many respects to shape our attitudes concerning its origins.

Recent research has challenged the decisive role of the Grand Tour in the history of modern tourism. Studies of European lower-class and emergent middle-class forms of leisure and travel activities have begun to suggest that these forms of tourism might have much more independent origins than had been imagined. Such studies have explored the association of new forms of travel, such as bicycle and automobile transport, with distinct new working-class travel and tourism traditions. Other research has focused on the places occupied by bourgeois tourists, pointing to the unique origins and distinctly classbased purposes of newly fashioned, accessible tourist regions and resorts as well as specific facilities, such as the establishment of nineteenth-century drinking halls in Germany and, much later, the advent of low-cost motels and camping facilities in the United States and elsewhere.

Research devoted to the history of working-class seaside resorts has been particularly productive and can help us better understand why we should pay attention to how tourism relates to different class interests. For example, earlier summaries of tourism history have often concluded that the individualistic and rather romanticized motives for travel embodied in the elite Grand Tour, such as the opportunity for self-discovery and cultural improve-

ment, must form the standard by which we might judge all subsequent forms of tourism. In this light people often view later forms of "mass tourism" and vacationing as aberrations of the more original motives of tourism, representing failed and superficial attempts to



An American family arrives for a cultural vacation in Venice, Italy, in July 2003. Once a major trading port, Venice is now a major tourist attraction.

## Tours Guides in China

The Importance of Living-by Li Yutang, a popular author in pre-World War II China—aimed to give American readers a glimpse at life in the East Asia in the 1930s. In the extract below, Li Yutang explains the peculiar charms of Chinese tour quides.

Chinese tourists suffer like American tourists at Radio City, with the difference that Chinese guides are not professional, but are fruit-sellers, donkey drivers and peasant boys, whose information is less correct, if their personalities more lively. Visiting Huch'iu Hill at Soochow one day, I came back with a terrible confusion of historical dates and sequence, for the awe-inspiring bridge suspended fifty feet over the Sword Pond, with two round holes in the slabs of the bridge through which a sword had flown up as a dragon, and became, according to my orangeselling boy, the place where the ancient beauty Hsishih attended to her morning toilet! (Hsishih's "dressing table" was actually about ten miles away from the place.) All he wanted was to sell me some oranges. But then I had a chance at seeing how folklore was changed and modified and "metamorphosed."

Source: Lin Yutang. (1938). The Importance of Living: A Personal Guide to Enjoyment (p. 329). New York: Reynal & Hitchcock, Inc.

emulate the travel of the upper classes. Recent research, on the other hand, suggests that the motives associated with the advent of European working-class seaside resorts might simply be different from those of more elite travel traditions. These styles of tourism, which often involved neighborhoods and work groups traveling together, resulted from legitimate desires for security and the comfort of the "mass," as well as important expressions of class solidarity, more than they related to the ideals of individuality and romantic self-expression associated with elite travel.

A number of scholars have explored the relationship between travel history and gender, and many of these scholars have started from the premise that, at least in the West, travel traditions and tourism practices have developed largely as a result of male prerogative and desire. The tourism roles of women either have been described in the literature as secondary to those of men (through such mechanisms as restricting travel or casting women largely as "hostesses" to male travelers) or have in themselves been subversive acts in the face of dominant male ideologies. An international perspective on tourism history might add new dimensions to studies of this subject. The argument has been made, for example, that women's prerogatives and desires have played a much greater role in establishing travel and tourism traditions in other, non-Western countries, such as Japan.

Compared with issues of class and gender, scholars have paid less attention to how racial or ethnic factors relate to different expressions of tourism. What literature exists is for the most part devoted to the emergence of distinct tourism practices developed as a result of racial discrimination, such as the advent of African-American resorts and tourism facilities prior to the U.S. civil rights movement.

### Capitalism, Modernity, and Leisure

Although a variety of opinions may exist about when tourism became "modern," people generally agree that modern tourism practices began with the rise of industrial capitalism. The familiar rise of European travel entrepreneurs such as Thomas Cook has been attributed to their ability to organize large-scale tourism ventures in response to the increased wealth and leisure opportunities afforded middle-class and working-class populations. By the later decades of the nineteenth century, the improved transportation systems that fueled the Industrial Revolution also provided new means of travel and tourism. The steamships and locomotives that transported raw materials and agricultural goods from the hinterlands to the industrializing cities served equally to bring tourists into these less-populated regions. Many of the large nineteenth-century resort areas established in North America were directly capitalized and maintained by the railways, establishing a pattern of tourism investment that survives to our time.

# Tourism in Hawaii

By the early twenty-first century, many towns, cities and regions around the world had become dependent on tourist dollars for their economic survival. In many of these tourist destinations, it a combination of a pleasant climate, a scenic environment, and the commercialization of the indigenous way of life that makes them popular. Hawaii is one such tourist destination.

Tourism supports most of the island population in one way or another, although not grandly for most; approximately one-third of jobs statewide are directly or indirectly generated by tourism. The vital signs of the industry are continuously and anxiously monitored and reported in local papers: the rise and fall in the numbers of tourists, hotel occupancy rates, daily spending averages of mainland and Japanese tourists —all are indices of the total well-being of the islands. Protecting the fragile resource of the "aloha spirit" is a concern of the industry and hence the state. Since tourism is dependent on image, tourists are as easily dissuaded from a destination by reports of crime and social conflict as they are lured to it by images of fun and romance. For that reason, crimes against tourists are often taken more seriously than similar crimes against local residents. For the same reason, the tourist industry mounts public relations campaigns directed at local residents, the message being that tourism supports us all and therefore we should be hospitable to our "visitors."

A recent campaign by the state-funded Hawaii Visitors Bureau is an example of how the tourist industry seeks to preserve Hawaiian culture because it is a marketable resource. Big ads addressed to local businesses were placed in newspapers. Under a picture of a hula dancer in a grass skirt, one ad read: Keep it Hawai'i. Hula is good for business. Sometimes we forget, but visitors to our islands have invested a lot of time—and money—to get here. For them, it's a dream that's finally come true. So let's show them a thing or two. Your business can add to the magic of Hawai'i by sharing examples of our heritage and traditions. Hawaiian music, a hula demonstration, or the simple gift of a flower can create lasting memories for visitors. Better still, your efforts give back to the community by helping preserve the true essence of Hawai'i.

Source: Buck, E. B. (1993). Paradise remade: the politics of culture and history in Hawai'i (pp. 180-181). Philadelphia: Temple University Press.

Modern tourism also carried with it a shift in values related to motivations for travel. Whereas earlier modes of tourism, such as the pilgrimage, were often characterized by difficulties or, in the case of the Grand Tour, with the distinctiveness of elite travel, the new, modern tourism came to be justified in terms of its benefits for the masses and the industries that employed them. Thus, tourism and its leisure came to be increasingly described as a kind of recreation, emphasizing the physical and spiritual health benefits to be gained from vacations away from the less-healthy urban environments in which the greater number of potential tourists was employed. In the United States in particular, many of the popular beach resorts of today had their origin as places of organized religious retreat. In much of Europe the elite traditions associated with many exclusive beach and spa tourism locations were transformed during the late nineteenth and early twentieth century by more

highly commercialized appeals to the larger public benefits of recreation in such places.

If people could see increased leisure as benefiting people as well as providing healthier and more productive workers, then people also had begun to see dramatically increased opportunities to travel as benefiting society as a whole and, more specifically, supporting the burgeoning nationalistic desires of the nineteenth and twentieth centuries. Thus, tourism worldwide has become a means of both promoting and appreciating the interests of nations, if not of "imagining" their very being. Contemporary manifestations of these nationalistic interests include the much increased popularity of ecotourism (celebrating the unique environments of places) and heritage tourism (promoting the historical and cultural significance of places).

The connection between innovations in transportation and styles of tourism has continued with the Labour produces not only commodities; it produces itself and the worker as a commodity—and does so in the proportion in which it produces commodities generally. • KARL MARX (1818–1883)

advent of the automobile and the airplane. The automobile has had a distinct impact on tourism, making travel easier, more accessible to a wider variety of people, more intrusive in many respects, and perhaps also more spontaneous. Automobile tourism has supported the rise of distinct hostelries, such as the autocamp and the ubiquitous motel. Air transportation, in turn, has reduced the significance of the actual travel experience as a part of tourism and emphasized the destinations of tourism. Although in these respects auto transportation and air transportation seem to encourage quite different kinds of tourism, they also serve similar functions in increasing tourism opportunities for a greater number of people as well as dramatically increasing the kinds of tourism (or tourism's "niche" markets) that have become available.

In recent times, since the end of World War II, tourism has evolved into one of the largest industries in the world (although some people have argued that it is not an industry at all but rather simply a market). Tourism's consequences extend far beyond economic considerations. Tourism is increasingly the lens by which we see the world, as well as the frame by which nations and peoples present themselves to be seen. In the view of some tourism scholars, the "tourist gaze," suggesting a visual recreation of sites and places through tourism, has become a vital and inextricable part of the human condition, mediating between the countervailing tendencies of globalization and locality that seem to be so much a hallmark of our present circumstances.

#### **Prospects**

Scholarship devoted to the history of tourism and travel has increased substantially during the past couple of decades, and this scholarship clearly will continue to grow and become established as a major line of historical inquiry, with contributions from history, several social sciences, and cultural and literary studies.

Although recent research has broadened our view of the origins and history of tourism, much remains to be accomplished. For example, people have devoted relatively little research to understanding the historical and cultural consequences of hospitality and particularly the relationship between traditional and commercialized expressions of hospitality. Scholars should devote more research to the international dimensions of tourism, especially in respect to better understanding the histories of travel and tourism as they apply to non-Western countries and regions. Recent advances in understanding the history of Western tourism practices with respect to class and gender differences should continue to have a strong influence on this field of study.

Erve Chambers

See also Grand Tour; Leisure

### Further Reading

Anderson, B. (1983). Imagined communities: Reflections on the origin and spread of nationalism. London: Verso.

Anderson, S. C., & Tabb, B. H. (2002). Water, leisure & culture: European historical perspectives. Oxford, UK: Berg.

Aron, C. S. (1999). Working at play: A history of vacations in the United States. Oxford, UK: Oxford University Press.

Barringer, M. D. (2002). Selling Yellowstone: Capitalism and the construction of nature. Lawrence: University Press of Kansas.

Belasco, W. J. (1979). Americans on the road: From autocamp to motel 1910–1945. Baltimore: Johns Hopkins University Press.

Brook, T. (1998). The confusions of pleasure: Commerce and culture in Ming China. Berkeley and Los Angeles: University of California Press.

Brown, D. (1995). *Inventing New England: Regional tourism in the nine*teenth century. Washington, DC: Smithsonian Institution Press.

Chambers, E. (2000). Native tours: The anthropology of travel and tourism. Prospect Heights, IL: Waveland Press.

Chard, C. (1999). Pleasure and guilt on the Grand Tour: Travel writing and imaginative geography 1600–1830. Manchester, UK: Manchester University Press.

Gold, J. R., & Gold, M. M. (1995). Imagining Scotland: Tradition, representation and promotion in Scottish tourism since 1750. Aldershot, UK: Scholar Press.

Guo, W., Turner, L. W., & King, B. E. M. (2002). The emerging golden age of Chinese tourism and its historical antecedents: A thematic investigation. *Tourism, Culture & Communication*, 3(2), 131–146.

Inglis, F. (2000). The delicious history of the holiday. London: Routledge.Jasen, P. J. (2002). Wild things: Natures, culture, and tourism in Ontario, 1790–1914. Toronto, Canada: University of Toronto Press.

Koshar, R. (2000). German travel cultures. Oxford, UK: Berg.

Koshar, R. (Ed.). (2002). Histories of leisure. Oxford, UK: Berg.

Lofgren, O. (1999). On holiday: A history of vacationing. Berkeley and Los Angeles: University of California Press.

Matsunosuke, N. (1997). Edo culture: Daily life and diversions in urban Japan, 1600–1868. Honolulu: University of Hawaii Press.

Morgan, N. J., & Pritchard, A. (1999). Power and politics at the seaside: The development of Devon's resorts in the twentieth century. Exeter, UK: University of Exeter Press.



Pratt, M. E. (1992). Imperial eyes: Travel writing and transculturation. London: Routledge.

Shaffer, M. S. (2001). See America first: Tourism and national identity, 1880–1940. Washington, DC: Smithsonian Institution Press.

 Sterngass, J. (2001). First resorts: Pursuing pleasure at Saratoga Springs, Newport & Coney Island. Baltimore: Johns Hopkins University Press.
 Towner, J. (1996). A historical geography of recreation and tourism in the Western world 1540–1940. Chichester, UK: John Wiley & Sons.

Towner, J., & Wall, G. (1991). History and tourism. *Annals of Tourism Research*, 18(1), 71–84.

Urry, J. (1997). The tourist gaze: Travel and leisure in contemporary societies. London: Sage.

# Trade Cycles

E ver since Old Testament days, when Joseph prophesied to Pharaoh that Egypt would experience seven fat years followed by seven lean years, economic activity has been characterized by wavelike rhythms and by longer-term trends and irregular fluctuations. Boom periods of prosperity and expansion are succeeded by recessions and depressions, which in turn give way to recovery and renewed prosperity. In preindustrial societies, cycles and fluctuations in the weather, which affected harvests, had the largest effect on the level of prosperity, while all aspects of life were affected by the cycle of the seasons. The "little Ice Age" of the fourteenth century was a period of economic depression in Europe. In the 1870s the economist and philosopher William Stanley Jevons argued that an eleven-year cycle in sunspots caused cycles of the same average length in the weather, harvests, and economic activity, but this theory has since been rejected so completely that in current macroeconomics the term sunspots is used to refer to any intrinsically irrelevant variable.

Beyond the weather and the seasons, preindustrial cycles and fluctuations in economic activity were set off by real shocks (wars, inventions, and plagues such as the Black Death of 1348–1351, or discovery of trade routes such as the seas route around the Cape of Good Hope to Asian spices) or by monetary shocks (such as the "price revolution of the sixteenth century," as silver from the new Spanish colonies in Mexico and Upper Peru raised

Europe's money supply and quadrupled its prices). The Black Death, which raised the amount of arable land per person by killing a third of Europe's population, was followed by more than half a century of high real wages. A financial shock, such as the failure of the Bardi and Peruzzi banking houses in Florence when Edward III of England defaulted, rippled through the commercial cities of northern Italy and Flanders and their trading partners around the Mediterranean and Baltic. Lord Overstone, a banker, introduced the phrase cycles of trade in the 1840s, and in 1862 the economist Clément Juglar published his pioneering history of commercial crises and their periodic recurrence in England, France, and the United States (including cycles in French marriage, birth, and death rates). The phenomenon itself was much older: The economist Thomas Ashton identified twenty-two economic fluctuations in eighteenth-century England, finding their origins in Britain's wars, seventeen financial crises, and eleven bad harvests.

### Long Waves

In 1925 the economist Nikolai D. Kondratieff observed recurring long waves of fifty to sixty years (twenty to thirty years of rapid economic growth, followed by an equally long period of slow growth) in British, French, and U.S. data on output, prices, wages, and interest rates from the Industrial Revolution onwards, an analysis that led to his arrest and death in Stalin's purges and the suppression of the Moscow Business Conditions Institute because of the implication that the Great Depression following the Wall Street crash of 1929 was not the final crisis of capitalism, but merely a severe downturn that would be succeeded by an upswing in the capitalist economies.

The economist Joseph Schumpeter attributed the economic expansion at the start of each Kondratieff wave to a clustering of technological innovations that both improved productivity and induced a surge of investment: water power, cotton textiles (spinning jenny, power loom, cotton gin), and iron (coked coal replacing wood as fuel) in the first Kondratieff wave from the 1780s (the Industrial Revolution); steam, railways, and steel in the second

Kondratieff wave in the middle of the nineteenth century; chemicals, electricity, and automobiles in the third wave that began in the 1890s. Later writers emphasize electronics, petrochemicals, and aviation in the fourth wave and computers and the Internet in a fifth Kondratieff wave. Such breakthroughs in technology and organization are instances of "creative destruction" rendering obsolete the physical and human capital of the previous techniques of production.

Schumpeter interpreted economic fluctuations as the aggregation and interaction of three superimposed cycles: a short Kitchin cycle (inventory cycle) averaging forty months' duration, a Juglar cycle of nine or ten years, and a Kondratieff cycle of forty-eight to sixty years, generated by clusters of innovations of different importance and gestation. By contrast, the economist Solomou concludes that the evidence is against the existence of a Kondratieff long wave in output or prices, that the leading industrial economies have not shared the same phases of boom and bust over long cycles, and that innovations have not been clustered in the way suggested by Schumpeter. However, Solomou found more evidence to support the existence of a Kuznets cycle averaging twenty years in length (varying from fourteen to twenty-two years), while other authors had argued that the apparent Kuznets cycle was an artifact of the filtering techniques used to decompose time series into trend, cycles, and irregular fluctuations. Increasingly economists and economic historians have become skeptical of the existence of true economics cycles—persistent rhythms whose average length and size remains unchanged—but recognize that responses to real and monetary shocks can be oscillatory, moving through successive phases of expansion and contraction but with the response to each shock gradually fading away.

#### **Depressions**

The depression of 1873 to 1896 was a long period of generally declining commodity prices and rising purchasing power of money, as the demand for real money balances grew faster than the world's supply of gold. Such falling price levels were perceived at the time as

depressing industry and commerce, but the period 1873–1896 is viewed in retrospect as one of depression in prices and nominal interest rates rather than in real output. The deflation was reversed by gold discoveries in South Africa and the Klondike and by the invention of the cyanide process for extracting gold from low-grade ores. The Great Depression of the 1930s, following the Wall Street crash of October 1929 that ended the U.S. stock market bubble of the late 1920s, was a depression in real output and employment as well as in prices. A quarter of the U.S. labor force and more than two-fifths of German industrial workers were unemployed by 1932, more than one-fifth of British workers by 1931. Bank failures and the fear of additional possible bank failures, with no deposit insurance, caused depositors to withdraw cash from U.S. banks, and banks to hold more reserves against their deposits, causing the U.S. money supply and price level to fall by a third or more. The gold standard, requiring the convertibility of national currencies into gold and other currencies at fixed rates, was seen as spreading the depression from one country to another, as national central banks were obliged to contract their money supplies to defend the exchange rates in the face of gold outflows. A country could maintain a fixed exchange rate only if the prices of its goods fell by the same proportion as the price level declined in its major trading partners and competitors. These pressures led to the breakdown of the gold standard, with Britain leaving in September 1931 and the United States in 1933. Another consequence was declining international trade and movement away from global economic integration, as countries responded to high unemployment and declining production by imposing tariffs and quotas on imports and subsidizing exports. Such moves increased friction between nations, and together with high unemployment, especially in Germany, helped to undermine democracy and international peace in the years leading to World War II. Similarly, the "golden age" of largely sustained Western European, North American, and Japanese prosperity from 1950 (after the Marshall Plan and comparable American aid to Japan assisted postwar reconstruction) until the first oil shock of 1973

Commerce is the cure for the most destructive prejudices. • DE MONTESQUIEU (1689–1755)

contributed to the growth of democratic institutions and international stability.

# Trade Cycles in the Present and the Future

Do business cycles still exist? Are periods of economic boom still followed by slumps? The Great Depression of the 1930s and the associated rise of Keynesian macroeconomics led national governments in the leading industrialized countries to accept responsibility for stabilizing the economy; they used monetary and fiscal policies to manage aggregate demand to try to smooth out fluctuations in output and employment. The larger share of government spending in the economy also acted as an automatic stabilizer, since government spending would be maintained when private consumption and investment fell in a recession, while such structural reforms as deposit insurance made the financial system less vulnerable to runs on banks by anxious depositors. Swift reaction by the U.S. Federal Reserve System prevented the abrupt stock market slump of October 1987 from having the wider consequences of the stock market crash of October 1929. Even with the OPEC oil price shocks of 1973 and 1979–1980, the world economy has clearly been more stable since World War II than it was between the two world wars. However, the economist Christina Romer has argued, controversially but influentially, that the apparent greater stability of the U.S. economy after World War II than before World War I is nothing more than a statistical artifact, resulting from the ways in which retrospective national accounts data were created for the pre-1914 United States.

Since the 1980s, governments have been less influenced by Keynesian arguments for government stabilization of output and employment to smooth out the business cycle. Instead, the emphasis has been on limiting inflation and on public policies to promote long-run growth of productive capacity. Booms and recessions continue to succeed each other, transmitted internationally through trade and investment flows in an increasingly integrated global economy, but with different countries not always in the same phase of the cycle at the same

time. Since the breakdown in 1973 of the Bretton Woods system of fixed exchange rates, these fluctuations in prosperity and international payments have been accompanied by fluctuations in exchange rates (with the adoption of the euro, initially by eleven European countries in 1999, reducing the number of exchange rates and currencies, and thus reducing the possibilities for variation). Economists now use the terms *trade cycles* or *business cycles* to mean economic fluctuations, without any implication that the fluctuations are cycles of fixed duration.

The fluctuating pattern of economic prosperity and depression has had deep social effects throughout history, and fluctuations continue to recur, as the result of shocks such as the creation of the OPEC oil cartel, the invention of a new technology, wars, or weather, or as the result of waves of optimism and pessimism among investors. The process of economic growth has not been, and likely will not be in the future, smooth and steady, but will consist of fluctuations around a trend.

Robert W. Dimand

See also Long Cycles

# **Further Reading**

Ashton, T. S. (1959). Economic fluctuations in England, 1700–1800. Oxford, UK: Clarendon Press.

Friedman, M., & Schwartz, A. J. (1963). A monetary history of the United States, 1867–1960. Princeton, NJ: Princeton University Press for National Bureau of Economic Research.

Gayer, A. D., Rostow, W. W., & Schwartz, A. J. (1953). The growth and fluctuations of the British economy, 1790–1850. Oxford, UK: Clarendon Press.

Glasner, D. (Ed.). (1997). Business cycles and depressions: An encyclopedia. New York and London: Garland.

Hagemann, H. (Ed.). (2001). Business cycle theory: Selected texts, 1860– 1939. London: Pickering & Chatto.

James, H. (2001). The end of globalization: Lessons from the great depression. Cambridge, MA: Harvard University Press.

Kindleberger, C. P. (1989). Manias, panics, and crashes: A history of financial crises (rev. ed.). New York: Basic Books.

Kindleberger, C. P., & Laffargue, J.-P. (Eds.). (1982). Financial crises: Theory, history and policy. Cambridge, UK: Cambridge University Press.

O'Brien, D. P. (Ed.). (1997). The foundations of business cycle theory. Cheltenham, UK: Edward Elgar.

Sherman, H. J. (1991). The business cycle: Growth and crisis under capitalism. Princeton, NJ: Princeton University Press.

Solomou, S. (1987). Phases of economic growth, 1850–1973: Kondratieff waves and Kuznets swings. Cambridge, UK: Cambridge University Press. Solomou, S. (1998). Economic cycles: Long cycles and business cycles since 1870. Manchester, UK: Manchester University Press.

# Trading Patterns, Ancient American

The native peoples of the New World exhibited a great ▲ diversity of trading patterns before the European invasion. In most ancient American societies, trade and exchange were strongly embedded within social institutions and practices. The long-distance trade identified by archaeologists was typically only one component of wider processes of social interaction that included exchanges of ideas and information, warfare and diplomacy, marriage alliances, and migrations of peoples. Trade assumed an independent commercial status only among the late states of Mesoamerica (Mexico and northern Central America). Nevertheless, trade was widely practiced in all parts of the ancient New World, among societies of all levels of social complexity, from the earliest hunters and gatherers to late prehistoric empires like the Aztec and Inca.

#### **Earliest Inhabitants**

The timing of the initial migrations to the New World is a topic of considerable debate. Regardless of their actual age, however, the earliest archaeological sites in North and South America provide evidence for a low level of long-distance trade. During this time, known as the Paleoindian period (c. 15,000 BCE–8000 BCE), small bands of hunters and gatherers traded projectile points and other tools made of high-quality cherts and other varieties of stone over moderate distances. The finely made and distinctive Clovis spear points were used over much of North America. These objects were made separately in many regions, and their similarities derive from a common technology that points to long-distance interaction throughout North America. Obsidian, a volcanic glass from which extremely sharp cutting tools were made, was

first traded in the Paleoindian period. Obsidian occurs geologically in only a limited number of mountainous areas in western North America, Mesoamerica, and the Andes. Each source area has a distinctive chemical "fingerprint" in the occurrence and quantity of trace elements. When subjected to any of a number of analytical techniques for measuring trace elements, an obsidian artifact's geological place of origin can be traced.

In most parts of the New World, the Paleoindian period was followed by the Archaic period (starting c. 8000 BCE and ending at different times in different areas). This was a time of growing populations, increased reliance upon plant foods, and growing technological sophistication. In Mesoamerica, the Andes, and the Amazon, plants and animals were domesticated at this time. The Archaic period furnishes evidence of increasing longdistance trade of stone tools. Although the evidence for trade is clear in the Paleoindian and Archaic periods, the overall volume of exchange was low and people obtained most goods in their local area. Trade was probably organized in what archaeologists call "down-the-line trade," in which trade goods move through reciprocal exchange from group to group without merchants or long-distance exchange expeditions.

#### North America

The roster of North American long-distance trade goods increased dramatically with the end of the Archaic period to include marine shell, ceramics, and objects made of copper, galena, obsidian, and other types of exotic stone. The frequencies of imported goods were typically much higher than in Paleoindian and Archaic times. Obsidian found at sites in eastern North America and marine shell ornaments at sites far inland show trade over long distances. Several later cultures are noteworthy for high quantities of imported goods. The Hopewell culture of the North American Midwest, for example, is best known for its elaborate public ceremonialism centered on earthen mounds and open plazas. Some Hopewell burials and other offerings contained thousands of ornaments and other finely crafted objects, many of which were imported from great distances. Imported burial



goods include at least ten types of native copper ornaments, finely-made stone bifacial tools, obsidian objects, mica mirrors, smoking pipes of clay and stone, ornaments of human bone and bear's teeth, tools of deer bone, quartz crystal, shell beads, and silver objects.

The emphasis on ornaments among the imported goods of the Hopewell and other North American cultures suggests that social factors were more important than strictly economic factors as stimuli for trade. Elaborate ornaments and exotic goods were most likely used in ceremonies and at other public gatherings (before being deposited in offerings) to communicate information about social identity and status. They probably served as sources of prestige for high-ranking individuals. This pattern continued in the most politically complex and spatially expansive North American culture, the Mississippian culture of southeastern and midwestern North America (c. 1000–1550).

Archaeological sites of the Mississippian culture are larger and more numerous than those of earlier cultures. The largest Mississippian site—Cahokia—was a true urban center with a substantial population, monumental architecture, powerful rulers, and various types of craft specialists. Many archaeologists classify Cahokia as an example of the chiefdom form of political organization. Cahokia was located in the American Bottoms (in Illinois, across from St. Louis), the largest expanse of rich alluvial floodplain along the Mississippi River. This region had numerous Mississippian settlements, all engaged in agricultural production and many with active craft industries. Exchange was extensive on both the regional level (linking the sites in the American Bottoms area) and the macroregional level, as evidenced by a variety of exotic imported goods found in excavations. Although some utilitarian goods were widely traded—particularly agricultural hoes produced from high-quality chert—most Mississippian trade goods were ornaments, ritual items, and the raw materials used to produce such goods (including copper, marine shell, and a variety of precious stones). The organization of Mississippian trade probably included down-the-line trade, gifts among localized elites, and exactions of taxes or tribute from subject populations.

#### Mesoamerica

Mesoamerica is a cultural area whose numerous peoples and cultures shared a variety of traits and practices. The commonalities that defined Mesoamerica were sustained by systems of long-distance interaction that included exchanges of both goods and ideas. Although longdistance trade goes back to the earliest inhabitants of Mexico and Guatemala, the distinctive exchange systems that created and defined Mesoamerica as a distinctive area developed after the start of the Formative period (c. 1600 BCE). In cultural terms, the Formative period saw the spread of a way of life based upon agriculture, sedentism (year-round villages), and pottery. Chiefdoms soon developed in several parts of Mesoamerica, including the Pacific coast, the Valley of Oaxaca, central Mexico, and along the Gulf of Mexico (home of the Olmec culture). The rulers of these polities exchanged a number of goods, including jadeite, serpentine, and other precious stones; obsidian tools; ceramic vessels; iron ore mirrors; shell ornaments; and various animal products used in ritual, such as stingray spines and turtle shells. As in the case of Hopewell and Mississippian exchange in North America, most trade goods were luxury goods used in social display and ceremonial performance, and the production, exchange, and consumption of these goods was probably under the control of chiefs and elites.

The Classic period in Mesoamerica (c. 250–900) was marked by the rise of powerful states in most regions. In the jungle lowlands of Guatemala and Mexico, Mayan kings ruled city-states from urban centers with abundant monumental architecture. Imported luxury goods were essential elements in the elaborate public performances and lavish lifestyle of these rulers. Kings often adorned themselves with imported precious stones (such as jadeite and obsidian) and headdresses of tropical bird feathers. They sponsored exclusive elite feasts at which foodstuffs such as cacao and other delicacies were served from elaborate painted pottery vessels. Obsidian had to be imported from distant sources, and most Classic Maya obsidian objects functioned in the realm of social display and rituals.

The contemporary Teotihuacán state of central Mexico presents a cultural and economic contrast to the Maya

That some should be rich shows that others may become rich, and hence is just encouragement to industry and enterprise. • Abraham Lincoln (1809-1865)

polities. Less flamboyant than their Maya counterparts, the rulers of Teotihuacán concentrated more effort on trade and craft production. Located near several major geological sources of obsidian, Teotihuacán controlled the production and trade of obsidian tools and jewelry in northern Mesoamerica. Excavations have located numerous craft workshops, and Teotihuacán houses have vielded goods imported from all parts of Mesoamerica. Teotihuacán exports—found all over Mesoamerica include ceramic vessels in addition to obsidian objects. Some kind of special economic and diplomatic relationship existed between Teotihuacán and the city of Monte Albán in Oaxaca, and a colony of merchants from the latter area has been excavated at Teotihuacán.

The transition to the Postclassic period (900–1520) was marked by a significant increase in economic activity in most parts of Mesoamerica. For this period, written historical records supplement archaeological evidence, and it is clear that highly commercialized long-distance trade flourished. Details of that trade, however, are covered elsewhere in the encyclopedia.

#### Caribbean Islands

The initial inhabitants of the Caribbean islands, most likely immigrants from the Mexican mainland, traded with peoples of northeast South America for crystals and other ritual items. A major migration from South America began c. 2000 BCE, bringing new peoples into the Lesser Antilles and eventually to most of the Caribbean. These "Saladoid" peoples, ancestors of the Tainos, maintained contact with people in South America through trade in a variety of goods. From earliest times, the peoples of the Caribbean were expert mariners who used dugout canoes to undertake both local and long-distance voyages. Trade within islands and between adjacent islands was extensive in all periods, whereas the extent of long-distance trade varied across time and space.

The major long-distance trade goods found at archaeological sites in the Caribbean are chert (for flaked stone tools), pottery and volcanic pottery temper, beads made from a variety of exotic stones (e.g., quartz crystals, amethyst, and diorite), and ornamental carved stone objects (including distinctive stone pestles). The trade connections with South America were still going strong with Columbus arrived in the Caribbean. He noted ornaments of a gold-copper alloy worn by Taino chiefs. The Taino worked locally-occurring gold but did not cast metal, and these ornaments must have been obtained through trade with the South American mainland.

#### South America

As in North America and Mesoamerica, long-distance exchange in South America started with the earliest hunter-gatherers of the Paleoindian period. Exchange throughout the Amazon Basin was probably extensive in most periods, but since the bulk of the material culture consisted of perishable goods this trade is difficult to document archaeologically. Early explorers and travelers reported active riverine exchange systems that some scholars treat as models for earlier periods. For a variety of reasons, trade is easier to study archaeologically in the Andean region. After the development of chiefdoms and states in the Andes, several goods of limited occurrence were widely traded over great distances. Of these goods, obsidian and marine shell stand out. There are fewer geological sources of obsidian in the Andes than in Mesoamerica, but Andean peoples made active use of the superior cutting edges of this stone in all periods. Marine shell was another important trade good in the Andes. Particularly valued was the colorful shell of the spiny oyster (genus Spondylus), used to make ornaments and ritual goods. These shells occur naturally only along the Pacific coast of Ecuador and Central America, and their presence at sites in the Andes was due to long-distance exchanges with northern groups. Metallurgy developed early in the Andes (c.1800 BCE), and objects of gold, silver, and bronze were widely traded.

The entire Andean zone was linked into a single cultural and economic system during three periods, called "horizons" by archaeologists. The Early Horizon (800– 200 BCE) was dominated by the Chavín culture. The central settlement, Chavín de Huantar (in present-day western central Peru), has yielded archaeological evidence of exchange with both the Amazonian lowlands and the Pacific coast. Mechanisms of long-distance interaction included both the exchange of goods and the spread of the Chavin art style, which was probably the material expression of a common religious system that linked numerous localized small polities. The Middle Horizon (600–1000) witnessed the spread of two major art styles centered on the cities of Huari and Tihuanaco (in the central and southern Andes, respectively). Huari was the capital of a territorial empire in which both trade and the imperial art style contributed to political integration and domination. During the Late Horizon (1400-1530), the Inca empire expanded rapidly to control nearly the entire area of the Andes and the Pacific coast.

The peoples of the Andes made use of a number of distinctive trading patterns quite different from those of Mesoamerica and North America. Most important was a strong desire for self-sufficiency on the part of villages and polities. The varied environments of the Andes, caused primarily by differences in elevation, are often in close juxtaposition. Rather than having villages in each zone specialize in local products and trade with one another (as happened in Mesoamerica), villages and polities sent out temporary settlements to exploit different zones so that each social unit could be self-sufficient by controlling the products and resources of many zones. This pattern was first described by the anthropologist and historian John Murra, who called it "verticality." The Inca rulers adapted self-sufficiency and verticality to their empire, with the result being a bureaucratic, state-run economy. Taxes were paid in labor, not goods. Managers organized labor parties and tracked the storage and movement of raw materials, flocks of llamas and alpacas, foods, and craft products. Money, markets, and independent merchants did not exist in the Inca empire, although these institutions did occur among some Andean groups outside the reach of the empire.

### **Ancient American Trading Patterns**

With the exception of Caribbean maritime trade and Andean llama caravans, nearly all trade goods in ancient America were transported by human carriers. This set limits on the types and numbers of goods that could be exchanged. Native inhabitants of North America, the Caribbean, and early Mesoamerica traded mostly ceremonial and luxury goods, at low quantities in the first two areas and at higher quantities in Mesoamerica. Late Mesoamerican peoples adopted commercial exchange institutions that raised the volume of trade and extended the diversity of goods exchanged. In the Andes, a drive for self-sufficiency led to distinctive state-run trade systems. Overall, the high costs associated with overland human transport produced a volume of long-distance trade lower than that found in many other ancient societies

Michael E. Smith

See also Andean States; Aztec Empire; Inca Empire; Mesoamerican Societies; Mississippian Culture; Trading Patterns, Mesoamerican

## **Further Reading**

Baugh, T. G., & Ericson, J. E. (Eds.). (1994). Prehistoric exchange systems in North America. New York: Plenum Press.

Burger, R. L. (1992). Chavín and the origins of Andean civilization. New York: Thames & Hudson.

Burger, R. L., Mohr Chávez, K. L., & Chávez, S. J. (2000). Through the glass darkly: Prehispanic obsidian procurement and exchange in southern Peru and northern Bolivia. Journal of World Prehistory, 14(3), 267-312,

D'Altroy, T. N., & Hastorf, C. A. (Eds.). (2001). Empire and domestic economy. New York: Plenum.

Earle, T. (2002). Bronze Age economics: The beginnings of political economies. Boulder, CO: Westview Press.

Gaxiola G. M., & Clark, J. E. (Eds.). (1989). La obsidiana en Mesoamérica [Obsidian in Mesoamerica]. Mexico City, Mexico: Instituto Nacional de Antropología e Historia.

Hegmon, M. (Ed.). (2000). The archaeology of regional interaction: Religion, warfare, and exchange across the American southwest and beyond (Proceedings of the 1996 Southwest Symposium). Boulder: University Press of Colorado.

Lee, T. A., Jr. & Navarrete, C. (Eds.). (1978). Mesoamerican communication routes and cultural contacts. Papers, vol. 40. Provo, UT: New World Archaeological Foundation.

Masson, M. A., & Freidel, D. A. (Eds.). (2002). Ancient Maya political economies. Walnut Creek, CA: Altamira.

McKillop, H. (2002). Salt: White gold of the ancient Maya. Gainesville: University of Florida Press.

Muller, J. (1997). Mississippian political economy. New York: Plenum. Murra, J. V. (1980). The economic organization of the Inka state. Green-

wich, CT: JAI Press.



Nassaney, M. S., & Sassaman, K. E. (Eds.). (1995). Native American interactions: Multiscalar analyses and interpretations in the eastern woodlands. Knoxville: University of Tennessee Press.

Rouse, I. (1992). The Tainos: Rise and decline of the people who greeted Columbus. New Haven: Yale University Press.

Salomon, F. (1986). Native lords of Quito in the age of the Incas: The political economy of North-Andean chiefdoms. New York: Cambridge Uni-

Smith, M. E. (2003). The Aztecs (2nd ed.). Oxford, UK: Blackwell

Smith, M. E., & Berdan, F. F. (Eds.). (2003). The Postclassic Mesoamerican world. Salt Lake City: University of Utah Press.

## Trading Patterns, **Ancient Asian**

See Silk Roads; Trading Patterns, China Seas; Trading Patterns, Indian Ocean; Trading Patterns, Pacific

# Trading Patterns, **Ancient European**

Turope is a broad peninsula spreading westward from L the Ural Mountains. Its southern shores are washed by the Black and Mediterranean Seas, its northern shores by the Arctic Ocean. To the west, Europe is bounded by the Atlantic Ocean, in which the great continental islands of Britain, Ireland, and Iceland sit. The coastal extremities of the greater European peninsula are in turn fragmented into number of smaller peninsulas: the Italian, the Greek, the Iberian, and the Scandinavian. The land mass is mountainous, although not impassably so, and the plains are intersected by great rivers that flow from the mountain ranges to the sea. Great river systems, in particular the Rhine, the Danube, the Dnieper, and the Rhone, connect the coast with lands far inland. These geographical advantages enabled the development of trading networks from an early date. In the absence of roads, the rivers and long coastline provided the highways by which at first goods and later people moved with increasing freedom.

#### The Foraging Era

Europe was peopled by anatomically modern humans (Cro-Magnons) from about forty-five thousand years ago. Habitation was initially limited to the more temperate southern coastal lands, because further north much of the landscape was dominated by the glaciation of the last great Ice Age. Such severe climatic conditions demanded ingenuity on the part of those humans who moved into those regions. Over millennia, a portable and flexible technology was developed in which there was a high demand for fine-grained stone cores (shaped but not completed stone tools). While it is clear that human bands dispersed during the long winters, all the better to subsist, there is good evidence to suggest that they gathered during the summers. For example, there is no doubt that they exchanged objects and, as a result, some artifacts moved a very long way from their initial point of origin. Baltic amber has been found at Cro-Magnon sites in southern Europe and seashells and sharks' teeth far inland.

#### The Neolithic Era

The melting of the ice sheets, with the resulting rise in sea levels, was complete by about 10,000 BCE. It was only then that Europe, as we know it, finally took shape. The North Sea and the Black Sea were flooded; rising sea levels also created the Aegean archipelago, cut Sicily off from Italy, and divided Sardinia from Corsica. The principal cultural development of the Neolithic is dry farming (that is, farming on dry, nonirrigated land). This resulted in the emergence of village communities and the development of more specialized technologies. It is also possible to begin to identify the emergence of an agricultural surplus as a tradable commodity. Luxury items have been found very far inland: in particular, shell jewelry of Aegean origin at sites in Germany and Hungary. Obsidian from the Lipari islands has been found in Malta, and the island of Melos served as a source for much of the obsidian used in the eastern Mediterranean. It has been argued that the trading networks established in the Neolithic of Mesopotamia/Anatolia for the distribution of obsidian established the trading patterns that dominated the ancient Mediterranean world.

## Baltic Amber Reaches the Aegean

... certain sacred offerings wrapped up in wheat-straw come from the Hyperboreans into Scythia, whence they are taken over by the neighbouring peoples in succession until they get as far west as the Adriatic; from there they are sent south, and the first Greeks to receive them are the Dodoneans. Then, continuing southward, they reach the Malian Gulf, across to Euboea, and are passed from town to town as far as Carystus. Then they skip Andros, the Carystians take them to Tenos and the Tenians to Delos.

Source: de Sélincourt, A. (Trans.). (1972). Herodotus. The histories (Book 4. 30). London: Penguin.

It is unlikely that such goods were taken directly from the place of manufacture to the sites where they have been found. In all likelihood, they were transported indirectly through a series of relays. This kind of "relay trade" is the principal way in which goods were moved long distances for most of antiquity, and it remains significant that only luxury goods were capable of being moved in this way, since only they could sustain the margins being added at each point of exchange.

#### The Amber Route

A good example of this early relay trade is amber, a commodity that was highly prized from the foraging era onwards, and the principal source of which, in Europe, was the Baltic region in the vicinity of the modern Russian territory of Kaliningrad. Very sophisticated networks for the transportation and distribution of Baltic amber were established during the Neolithic and continued into the classical period. Amber is found in the early Bronze Age graves of Mycenae, the middle Bronze Age ship wrecked near Ulu Burun, and the magnificent tomb of the Pharaoh Tutankhamen.

The amber was transported along the coast of the Baltic to the River Elbe. From there, it was taken far upstream. In southern Germany, it was transferred to transport overland, making the journey through the Alps and down to the Adriatic Sea. From ports on the Adriatic, it was transported, mostly through cabotage (that is, local trading networks), to the great economic centers of the ancient world.

#### The Metals Trade

The increased working in metal ores marked the end of stone-based technology. One stone that became extremely popular, where it was available, was raw copper. There were a number of major deposits of copper in European centers—in particular, the Balkans and the island of Cyprus. There were also smaller deposits elsewhere. When the frozen body of Ötzi, the Ice Man, was discovered in a glacier on the Austrian-Italian border, he was found to be carrying a copper axe, which had been quarried locally, and which he had (probably) worked himself.

Nevertheless, copper-producing regions became the centers of trading networks. In many cases, these simply followed the same patterns as those established in the Neolithic. Deep copper mines were already operating in the copper-rich region of eastern Serbia in the fifth millennium BCE. Copper from the Balkans supplied a rich culture across what is now Hungary, Rumania, and Yugoslavia. In the same way, copper from Cyprus supplied the needs of the eastern Mediterranean. It was in this region that it was discovered that copper could be alloyed with Anatolian tin to make bronze. This in turn drove a demand for the much scarcer ore.

#### TIN

The emergence of the demand for tin broadened the Mediterranean trading network. While there were sources of tin in the Mediterranean world, the major source was tin-rich Cornwall. Herodotus refers to Britain as "the Tin Islands" (Cassiterides) and Cornish tin found its way to the Mediterranean, either by a short sea trip to the mouth of the Loire, then up the Loire and down the Rhone to the coast, or by a long sea trip through Gibraltar to southern Spain. Like the amber route, this tin route connected the extremities of the European world through a network of exchanges.

Other highly prized metals were also being increasingly traded over long distances. Spanish silver and Irish gold both found their way into the Mediterranean trading world. By the middle Bronze Age large amounts of metal The Vietnamese people deeply love independence, freedom and peace. But in the face of United States aggression they have risen up, united as one man. • Ho Chi Minh (1890–1969)

were being extracted, smelted, and traded. The Ulu Burun wreck, for example, carried six tons of copper, all cast into distinctive "ox-hide" type ingots, slabs of pure copper cast into the shape of an outstretched ox-hide. It is significant that this form of ingot had become standard throughout the Mediterranean world by the second millennium BCE.

#### The Rise of Urbanism

One other highly significant feature of the second millennium BCE was the development of palace cultures, cities, and city-states. These created economic differential, the possibilities of economic specialization, and particular centers of demand. The earliest urban cultures were situated away from the Mediterranean world, in the river valleys of Mesopotamia, the Nile, the Indus, and the Yangtze. By the middle Bronze Age, however, there was an elaborate palace culture on Crete, and complex urban entities were forming in Greece and Italy. Cities provided fixed markets for goods and secure environments for the storage or conversion of surplus. Cities became the principal points of exchange in the relay trade and of economic distribution for their surrounding regions. Trade became so important to the cities of the Mediterranean coast that by the first millennium BCE they were sending out trading colonies.

The Phoenicians sought to exploit southern Spain, setting up a series of trading and mining colonies referred to in the Greek sources as "Tartessus," and in the following centuries, the Greeks followed suit. One Greek colony of great significance was that of Massilia (modern Marseilles) at the mouth of the Rhone river, a site that enabled considerable control of the tin trade, challenging the Phoenician (increasingly Carthaginian) control of southern Spanish ports. Another was the city of Byzantium, located strategically on the Bosporus, the narrow strait between the Black Sea and the Sea of Marmara, and therefore well situated to take advantage of trade between the cities of the eastern Mediterranean and the cultures surrounding the Black Sea.

#### The Grain Trade

One significant result of the development of urbanism was that the growth of some cities outstripped the pro-

ductive capacities of their agricultural resources. While an initial answer to this was depopulation through colonization, ultimately a number of cities needed to import food. Grain production and export soon became an important industry, particularly for the agriculture-poor Greek city-states. A particularly important maritime route was established between Athens, the hungriest of the cities, and the Bosporan kingdom in the Crimea. The ancient ports of the Crimea sent out shiploads of grain, receiving, in turn, bullion, wine, and elegant pottery. In the same way, other Greek states maintained links with the agriculturally wealthy Greek colonies of Sicily.

By the fifth century BCE, the entire Mediterranean was a well-travelled highway, serving the hungry markets of Greece, Anatolia, and Syria. There are two clear indicators of this: the introduction of coinage in Anatolia in the sixth century, which made processes of exchange easier, and the growth of piracy. While briefly suppressed by the Athenians in the eastern Mediterranean, it remained a major problem throughout the Mediterranean until the advent of Roman naval dominance in the first century BCE.

One feature of European trade that the pirates exploited was the trade in people as commodities: the slave trade. Large numbers of slaves came into the European economic system from the Eurasian steppe via the Black Sea. Others came from Thrace, Greece, and Anatolia, even well into the Roman period.

#### The Celts

Urbanism did not penetrate far north of the Mediterranean fringe. From the beginning of the first millennium BCE, the region between eastern Germany and the Atlantic coast of France was dominated by Celtic peoples. Principally farmers and pastoralists, they nevertheless exploited mineral deposits where they could find them. Salt mines in Austria were opened up and the salt exported to the Adriatic. Iron was also mined and worked in southeastern France and exported to the Etruscans and Greeks of Italy. Gold was also exported, as was wine, and elegant pottery fineware was imported. In the same way, Celts also exported goods north, in particular bronze and iron artifacts. Technology was also exchanged. Celtic kingdoms began minting gold coinage,

probably in imitation of Macedonian coinage, in the third century BCE. These exchanges were insufficient to prevent conflict between the Cetic and Mediterranean worlds, however. Major Celtic raids in the fourth and third centuries BCE saw a Celtic kingdom established in Anatolia, and Rome itself sacked. It was, nevertheless, the Romans who brought regularity and security to western and southern European trade.

#### The Romans

When Julius Caesar conquered Gaul in the first century BCE, he brought it firmly into the Mediterranean economy. The subsequent conquests of Britain, Illyricum (the modern Balkan states), and the western part of Germany brought much of Europe into close economic contact. One major feature of Roman rule was the construction of roads; another was the suppression of banditry and piracy. Goods could travel long distances quite freely. Just as Athens had been dependent upon imported grain from the Crimea, the vastly bigger city of Rome received its grain in great freighters that sailed from grain ports in Africa, Sicily, and Egyptian Alexandria. The Roman network of roads and maritime routes made travel around and across the Mediterranean and deep into its European hinterland a relatively straightforward proposition.

Trading was no longer dependent upon cabotage, although that was still the most frequent type of trade. Rather, a number of mercantile diasporas were established throughout the Roman world and beyond it: Syrians, Jews, and Greeks established subcommunities within great cities like Rome and Alexandria. While this sometimes led to conflict, it also led to the spread of ideas. Christianity spread swiftly throughout the Mediterranean world and beyond it because of its strong base in Jewish diaspora communities.

By the second century CE, the European economy was highly complex and interconnected. It has been spoken of as a segment in an increasingly complex world system. As such, it was subject to economic fluctuations. The long recession of the third century was felt throughout Europe, and it made Rome itself vulnerable to raids from predatory foreign peoples, which depressed the domestic economy even further. The subsequent recovery was partial,

and by the late fifth century the western Roman empire had collapsed, disrupting ancient lines of trade and communication. While the eastern Roman (or Byzantine) empire continued in existence for another millennium, it was never again so dominant a military and economic presence.

Bill Leadbetter

See also Viking Society

### **Further Reading**

Ascherson, N. (1995). Black Sea. London: Jonathan Cape.

Casson, L. (1994). Ships and seafaring in ancient times. London: British Museum Press.

Curtin, P. (1984). Cross-cultural trade in world history. Cambridge, UK: Cambridge University Press.

De Souza, P. (1999). *Piracy in the Graeco-Roman world*. Cambridge, UK: Cambridge University Press.

Dixon, J. E., Cann, J. R., & Renfrew, C. (1968). Obsidian and the origins of trade. In *Hunters, farmers and civilizations: Old World archaeology. Readings from Scientific American* (pp. 108–116). San Francisco: W.H. Freeman.

Fagan, B. (1990). The journey from Eden: The peopling of our world. London: Thames and Hudson.

Finley, M. (1962). The slave trade in antiquity: The Black Sea and Danubian regions. Klio 40, 31–59.

Hordern, P. & Purcell, N. (2000). The corrupting sea: A study of Mediterranean history. Oxford, UK: Blackwell.

Lancel, S. (1995). Carthage: A history (A. Nevill, Trans.). Oxford, UK: Blackwell

Renfrew, C. (1973). Before civilization: The radiocarbon revolution and prehistoric Europe. Harmondsworth, UK: Penguin.

Rickman, G.E. (1980). The corn supply of ancient Rome. Oxford, UK: Clarendon

Wells, P. S. (1995). Trade and exchange. In M. J. Green (Ed.), *The Celtic world* (pp. 230–243). London: Routledge.

# Trading Patterns, China Seas

For most of its long history, Chinese civilization has turned its back to the sea and has focused inward. The Chinese, as a general rule, have not been a seafaring people. Only a tiny fraction of the population of China derived their livelihood from maritime activities—fishing, overseas trade, piracy, or naval warfare. Very few

long-distance voyages were ever undertaken by Chinese mariners, and the Chinese never "ruled" any of the major oceanic waterways. However, a coastline of about 14,000 kilometers (within today's borders of the People's Republic of China) makes maritime defense a major portion of any government's security policies. Even more importantly, port towns developed along the coast, many of them in the river estuaries of South and central China. The main economic function of these towns and cities was to organize exchange with commercial communities across the China Seas.

# The Triple Function of the China Seas

China Seas is a summary term coined by European navigators and geographers, rarely used in China. Chinese maps and geographic manuals distinguish between five different expanses of water adjacent to the Chinese coast: the Gulf of Zhili, called in Chinese Bohai, south of Manchuria; the Yellow Sea, called Huanghai, between North China and the Korean peninsula; the East China Sea, called Donghai, into which the Chang (Yangzi) River discharges its waters; the Strait of Taiwan, called the Taiwan Haixia, separating that island from Fujian Province; and, finally, the South China Sea, called Nanhai, which is the maritime "foreland" of the southernmost Chinese province, Guangdong.

These maritime spaces are clearly separated from the high seas of the Pacific Ocean and the Indian Ocean. Yet, in an important way, they form a connection between both: For centuries after the arrival of European shipping in East Asia, the principal route from India into Pacific waters led through the Strait of Malacca and the South China Sea and then round the northern tip of the Philippine archipelago.

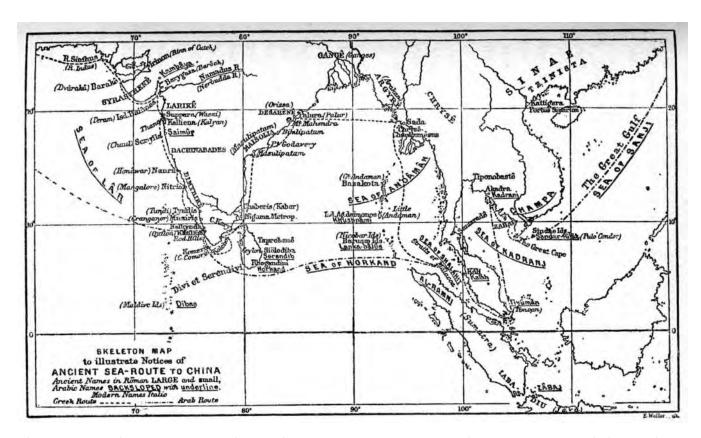
This fact points to the triple function of the China Seas, considered in terms of economic geography. In the first instance, they serve as an avenue for China's coastal trade. Coastal trade has always been vital for the integration not only of the various seaboard districts, but also of all the eastern provinces of China. Before the advent of the railroad it was indispensable for transporting

bulky goods in a north-south direction. Second, the China Seas are the arena in which regional trade between China, Japan, and the countries of Southeast Asia unfolds. No other function is more important than this one. The China Seas gave rise to and still support a dense network of commerce connecting different economic systems which in many ways complement one another. Third, access to the oceans necessarily leads through the China Seas. In the long run, the China Seas' transit function is probably their least important aspect, assuming major importance only with the rise of the Canton trade in the early eighteenth century. But at least for modern times, it forms part of the complete picture. By definition, the predominant emporia are those that combine all three of these functional tasks. These major ports are simultaneously pivots of coastal, regional, and longdistance traffic and commerce.

# Fourteenth Century Trade in the South China Sea

The great achievements of Chinese nautical engineering have been reconstructed by modern scholars for epochs even earlier than the establishment of the empire in 221 BCE. Only with the Ming dynasty (1368–1644), however, does a comprehensive picture of maritime trade emerge. The basic type of ship, in use for many centuries, had already been developed during the tenth century. This "Fujian ship" (fuchuan), a safe, spacious, and fast vessel, proved admirably suited to the trading conditions in the China Seas. It later evolved into the cheap and popular "shallow-water ship" (shachuan), an even more advantageous type of flat-bottomed watercraft. Southeast Asian shipbuilders also provided technical innovation. The outcome was the ubiquitous junk (a word probably originating in Javanese, but later applied mainly to Chinese ships) that shaped European perceptions of the Asian maritime world.

Extended trading networks covering the South China Sea came into being as a result of two developments occurring in the fifteenth century. First, the Chinese government dispatched several huge fleets under Admiral Zheng He (c. 1371–1435) to establish contact with



This nineteenth-century map shows the ancient sea routes used from Greece and the Arabian peninsula to and from China.

numerous countries in Southeast Asia and on the Indian Ocean. Although this policy was soon discontinued, several of the links formed by these naval missions were maintained as "tributary" relationships, in which ritual, diplomacy, and commercial interest interacted in a complicated way. The best example of a tributary relationship with a strong economic content is the Sino-Siamese (i.e., Thai) tributary trade, conducted officially between the Siamese royal court and imperial representatives in South China. Its material underpinnings were the complementary structures of the two economies: Siam produced rice that was needed to feed the rapidly growing population of the southern provinces of Guangdong and Fujian. The Chinese demand for rice, in turn, was partly the result of the conversion of rice paddies into fields for cotton, tea, and mulberry trees for silk, all commodities used at home and in trade. In the opposite direction, Siam imported copper from mines in the Chinese province of Yunnan. This trading pattern persisted up to the middle of the nineteenth century.

Second, emigration from Guangdong and Fujian seems to have increased during the fifteenth century. Chinese merchant communities settled in various parts of insular and continental Southeast Asia. They were viewed with suspicion by the Ming dynasty, and after the Chinese authorities restricted maritime commerce much of their trading activity was considered illegal. This did not prevent a flourishing trade in spices, silk, timber, skins, gold, copper, tin, medicinal materials, and other valuable goods. Apart from Chinese merchants, many local groups, Arab traders, Indian businessmen (many of them from Gujarat) and even Japanese ships were involved in these commercial transactions, often ultimately driven by demand in an increasingly prosperous Chinese market. The famous pepper trade to Europe, for example, found its equivalent in vast exports of pepper from Sumatra and other islands to China.

The arrival of European ships changed the established trading patterns within the region without overturning them. The Europeans' main advantage lay in the size and armament of their ships. After a brief period of intrusive violence, the Portuguese understood the wisdom and even the necessity of partially adapting to Asian trade. The Dutch and later the British developed their own forms of "country trade," conducted by private European trading firms along intraregional trading routes. European traders were closely dependent on indigenous producers, merchants, and providers of credit. Longdistance trade to Europe remained in the hands of the European chartered companies. While the East India Company (EIC) preferred direct contact with Chinese merchants in Canton (Guangzhou) and other South Chinese ports, the Dutch Verenigde Oost-Indische Compagnie (Dutch East India Company, or VOC) relied on Batavia (present-day Jakarta) as its central emporium and collecting point in the East. Thus, Batavia served as a link between the various Eastern networks and the transoceanic shipping routes.

There is little statistical evidence for the scope of trade in the China Seas in the early modern era. Data on maritime customs revenue collected at ports in South China, however, indicate that the volume of trade multiplied between the sixteenth century and the 1820s. The expansion of foreign trade facilitated regional specialization all around the China Seas and thus had a profound effect on economic activity in the entire region. The rise of port cities, with their cosmopolitan communities of sailors and traveling merchants, contributed significantly to social differentiation. Yet there was no steady progress of opening up to the world. Japan's Tokugawa shogunate, the military government in power from 1600 to 1868, drastically curtailed Japan's foreign trade with all possible partners from the 1630s onwards, and while Chinese maritime commerce flourished after about 1720, many noncolonial entrepôts in Southeast Asia lost their dynamism at roughly the same time. Trade in the China Seas not only constantly changed its patterns in space, but also went through long-term as well as short-term cycles of expansion and contraction that were partly driven by political and military factors, as the market economy of maritime Asia in early modern times operated under conditions set by rulers and states.

# Treaty Ports, Steam Shipping, and the World Market

The "opening" of China and the establishment of the earliest treaty ports (ports designated by treaty for trade) in 1842 was soon followed by the introduction of steam shipping into Chinese coastal and riverine traffic. Although Chinese-type sailing vessels proved remarkably resilient and were completely superseded hardly anywhere, steamers possessed advantages that had a deep impact on trading patterns. Their carrying capacity was virtually unlimited, they could easily operate on the sea as well as on major rivers, and their deployment could be organized by large-scale capitalist enterprises. In the China Seas, especially in the south, sail and steam continued to coexist. The most dynamic lines of business, however, were captured by modern forms of transport.

From to 1820s through the 1870s, China's foreign trade was dominated structurally by illegal and, from 1858, legalized shipments of opium from India to China. This trade used the South China Sea for transit, but hardly affected Southeast Asia, where different networks of drug traffic existed. An important change came with the economic development of the European colonies in that part of the world during the last quarter of the nineteenth century. The introduction of large-scale plantations and of mechanized mining as well as the intensification of peasant production for export integrated Southeast Asia much more closely into the world economy than ever before. Expatriate entrepreneurs of Chinese origin were instrumental in forging these connections. By this time, an impoverished China was no longer the promising market it had been. China now became important as a supplier of cheap labor. Chinese emigrants took advantage of the agricultural and mining opportunities in insular and continental Southeast Asia and beyond. The migration of contract labor from southern China to various overseas destination, termed "coolie trade" by contemporaries, was largely organized by Chinese recruiting firms, although transport remained in the hands of European-owned steamship companies.

It was a structural hallmark of Chinese foreign trade between the first Opium War (1839–1842) and the estab-

History is the only laboratory we have in which to test the consequences of thought. • ETIENNE GILSON (1884–1978)

lishment of the People's Republic in 1949 that indigenous shipping companies secured a substantial share of the market in coastal and inland transport, but never succeeded in entering overseas shipping. China's lack of a merchant navy was symbolic of the country's subordinate position in the international economy. Another new feature in the early twentieth century was incipient industrialization. British sugar factories in Hong Kong and Japanese ones in colonial Taiwan exported their products to various countries around the China Seas. Part of their raw sugar came from the Dutch East Indies.

# The Fall and Rise of China's Maritime Commerce

The Great Depression of the 1930s along with Japanese aggression against China and the Western colonies in Southeast Asia put a severe strain on the trading networks in the region. Exports of conventional commodities declined sharply during the Great Depression, when demand fell in Asia, Europe, and the Americas. Chinese emigration, formerly a mainstay of steam traffic in the South China Sea and also between North China and southern Manchuria, went into decline. After the Japanese occupation of Manchuria in 1931, the activities of Japanese shipping companies became ever more imperialistic. The formation of a Japanese-dominated trading sphere known as the "yen bloc" was a bid for autarky and protected export markets. In the early 1940s, the Japanese restructured large segments of long-distance trade according to the needs of their war economy. The Pacific War itself was caused in part by economic factors, such as the United States' petroleum embargo against Japan, put in place in July 1941, which made it clear to the Japanese that a self-sufficient empire unaffected by the world market was an impossibility.

The collapse of the Japanese empire in 1945, the Chinese revolution of 1949, and the disappearance of European colonial rule in Southeast Asia after the end of World War II ruled out a return to prewar patterns of maritime commerce. Only Hong Kong survived as a first-rate emporium, now with a considerable industry of its own. A large part of the People's Republic of China's

trade with Southeast Asia and Europe was channeled through Hong Kong. At the same time, the Communist government in China began the long-term process of reestablishing China's lost military sea power and mercantile presence in the China Seas and on the world's oceans. That process continues today.

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See also China; Exploration, Chinese

### **Further Reading**

- Chaudhuri, K. N. (1985). Trade and civilisation in the Indian Ocean: An economic history from the rise of Islam to 1750. Cambridge, UK: Cambridge University Press.
- Chaudhuri, K. N. (1990). Asia before Europe: Economy and civilization of the Indian Ocean from the rise of Islam to 1750. Cambridge, UK: Cambridge University Press.
- Chaudhury, S., & Morineau, M. (Eds.). (1999). Merchants, companies and trade: Europe and Asia in the early modern era. Cambridge, UK: Cambridge University Press.
- Cushman, J. W. (1993). Fields from the sea: Chinese junk trade with Siam during the late eighteenth and early nineteenth centuries. Ithaca, NY: Cornell University Press.
- Deng, G. (1999). Maritime sector, institutions, and sea power of premodern China. Wesport, CT: Greenwood Press.
- Dermigny, L. (1964). La Chine et l'Occident: Le commerce à Canton au XVIIIe siècle 1719–1833 [China and the Occident: The Canton trade in the eighteenth century, 1719–1833] (Vols. 1–3). Paris: S.E.V.P.E.N.
- Gaastra, F. S. (1991). De geschiedenis van de VOC [The History of the Dutch East India Company]. Leiden, Netherlands: Walburg Press.
- Gardella, R. (1994). Harvesting mountains: Fujian and the China tea trade, 1757–1937. Berkeley and Los Angeles: University of California Press.
- Greenberg, M. (1951). British trade and the opening of China, 1800–42.Cambridge, UK: Cambridge University Press.
- Guillot, C., & Lombard, D., & Ptak, R. (Eds.). (1998). From the Mediterranean to the China Sea: Miscellaneous notes. Wiesbaden, Germany: Harrassowitz.
- Heine, I. M. (1989). China's rise to commercial maritime power. New York: Greenwood Press.
- Lombard, D. (1990). Le carrefour javanais: Essai d'histoire globale [The Javanese crossroads: An essay on global history] (Vols. 1–3). Paris: Éditions de l'École des Hautes Études en Siences Sociales.
- Osterhammel, J. (1989). China und die Weltgesellschaft. Vom 18. Jahrhundert bis in unsere Zeit [China and the world since the eighteenth century]. Munich, Germany: C. H. Beck.
- Ptak, R. (1999). China's seaborne trade with South and Southeast Asia (1200–1750). Aldershot, UK: Ashgate Variorum.
- Ptak, R., & Rothermund, R. (Eds.). (1991). Emporia, commodities and entrepreneurs in Asian maritime trade, c. 1400–1750. Stuttgart, Germany: Steiner.
- Reid, A. (1988–1993). Southeast Asia in the age of commerce, 1450–1680 (Vols. 1–2). New Haven, CT: Yale University Press.



Wiethoff, Bodo (1963). Die chinesische Seeverbotspolitik und der private Überseehandel von 1368 bis 1567 [The politics of Chinese maritime trade prohibitions and private overseas trade from 1368 to 1567]. Wiesbaden, Germany: Harrassowitz.

Wills Jr., J. E. (1998). Relations with maritime Europeans, 1514-1662. In Fairbank, J. K. & D. Twitchett (Eds.), The Cambridge history of China: Vol. 8 (pp. 333-375). Cambridge, UK: Cambridge University

# Trading Patterns, Eastern European

If civilization means thinking about, and acting toward, **▲** "aliens" civilly, then globalization means thinking about, and acting toward, potential partners globally. Both concepts come into play when discussing European regional economic relations, which embody aspects of mutual alienation—here used in its original, general sense of being "other," the Latin alius.

### Early East-West Trade

The "otherness" of parts of Europe in terms of geographical longitude originated both in two great unifications of classical times (the Greek empire of Alexander the Great and the Roman empire) and in two great subsequent divisions (that of the Roman empire into a western empire ruled from Rome and an eastern empire ruled from Byzantium, and the Great Schism of 1054 between the Roman Catholic and the Eastern Orthodox Churches). Both empires made the rest of Europe "other" to themselves, and the two divisions made eastern and western "other" to each of them. Whereas the boundaries separating "east" from "west" depressed trade and barter, the later religious division—the "north" remaining Christian and "south" becoming Islamic—initially stimulated trade. The explanation lies in cultural asymmetry, be the boundary longitudinal or latitudinal. In its crudest form the cultural divide was language, merely because that of the "other" was incomprehensible: Greeks and Romans termed them barbari, "barbarians," parodying their tongues as bah bah; Slavs described foreigners as nemets,

from the verb nemet', "to become dumb"; Russians and Poles later restricted the word to Germans (nemtsy; *niemcy*), paradoxically the nation with whom both political confrontations and economic exchanges were greatest. The cultural, political, and economic development of the "west" was more advanced than that of the "east" and tended to limit trade to the "western" import of raw materials and agricultural and hunting produce against its export of manufactures. Thus the treaty of 944 between Prince Igor of Kiev and Byzantium—the first formalization of east-west trade—imposed quotas on the quantity of silk goods that the *gosti*, or traders, of Kievan Rus could purchase annually. Although Suzdal succeeded it as the Russian capital in 1169, Kiev was (until conquered by the Mongols in 1240) one of Europe's largest trade centers, a "Ravenna of the North."

A reverse asymmetry was obtained across the northsouth division of the Mediterranean and West Asia. Byzantium, and Europe generally, bought metal goods and textiles from networks spanning Alexandria and Damascus to Bukhara and Samarqand, cities that in the Middle Ages were more industrially advanced than those of Europe. The Silk Road from Europe to Central Asia, along which Chinese, Persian, and Indian manufactures flowed, became the major channel of east-west trade when piracy impeded use of the sea passages and Ottoman Turks blocked Christians from the southerly land routes. However, by the time Marco Polo publicized the route's commercial attractions, cities in his native Italy were creating new forms of enterprise and new products in a proto-industrialization that would by the eighteenth century eventuate in western economic superiority over the East.

#### **Medieval Markets**

Meanwhile, however, much of eastern Europe and Russia had succumbed to the Mongols. Already controlling China, Persia and Transcaucasia from their Central Asian base, Tatar armies arrived on the Volga in 1236 and by 1240 had conquered most of the Russian principalities, which for two centuries thereafter paid tribute to the Khans of the Golden Horde. The command economy imposed by the "Tatar yoke" (tatarskoe igo) influenced the Russian administrative and fiscal structure—the present Russian words for customs house, label, money, and treasury derive from Mongol. The command economy itself was to return, albeit in modern and more complex form, in the Soviet system of 1918-91. The Republic of Novgorod resisted the Tatars and became the commercial capital of Russia: until the establishment of Saint Petersburg in 1703, the Novgorod Fair was the epicenter of east-west trade.

From the twelfth century the institutional setting for overland trade in Western Europe was the annual fair (Jahrmarkt in German), though its equivalent in Russia, derivatively the yarmaka, did not appear until the sixteenth century. German, Scandinavian, and Greek traders presented their goods for sale, which were purchased by Russian gosti, who supplied farm and forest products in return, organizing supply chains that for fur pelts stretched for more than a thousand kilometers. Merchants organized as the Hanseatic League were the most important Western mercantile community, while the Russians grouped themselves by sources of imports—stetichniki trading with Stettin, for example, or the gotlandsky dvor with Swedes. For the rest of medieval Eastern and Central Europe, the Frankfurt Fair was the cynosure among many regional fairs, convened around the feast day of locally venerated saints. Seaborne trade remained in the hands of foreigners, Venetians and Genoese in the Mediterranean and Black Sea and English to the White Sea, whence Russian forests provided exports directly as timber, and indirectly as charcoal for smelting copper and iron and as ashes for bleaching linen.

#### Trade Between Modern Nation-States

The transition from medieval to modern statehood in Europe is conventionally dated at the Treaty of Westphalia in 1648, though the fiction of Europe's Holy Roman Empire was not to be terminated until Napoleon's fiat of 1801. Nation-states became economic as well as political entities, limiting by taxes, duties, and bans the trade of their citizens with others. Thus ended the long globalization of Christian Europe, in the sense that within that area a trader could choose globally among potential partners. The largest state on the eastern side was, of course Russia, and its trade relations were transformed by Peter the Great (1672–1725). His visits in 1697 to his Baltic provinces, Prussia, Hanover, the Netherlands, and England provided the czar with models for far-reaching administrative and fiscal modernization and the encouragement of trade and industry. The creation of his "window on the West," Saint Petersburg on the Baltic Sea, and territorial expansion along the Black and Caspian Seas fostered commerce. Trade across the Pacific, however, awaited the founding of Vladivostok in 1860 and the construction of the Trans-Siberian Railway in the ensuing decade. Financial intermediation was internationalized by the opening of the Petersburg Bourse (Birzha) in 1703, and by 1914 there were 115 stock and commodity exchanges across the country. Nevertheless it was not until 1897 that Russia went on the gold standard, only to suspend convertibility at the outbreak of World War I in 1914.

Between 1648 and 1914 the only large state of eastern Europe was Poland until dismemberment into parts taken by Russia, Prussia, and Austria at the end of the eighteenth century. In the Balkans, Montenegro clung to a precarious autonomy throughout, with little to export save bandits; in the nineteenth century, Bulgaria, Romania, and Serbia gained their independence, but, small and agrarian, their impact on European trade was negligible. Serbian pigs were herded to Austrian slaughterhouses, Bulgarian attar of roses and tobacco had niche markets, and in the later nineteenth century tankers shipped Romanian oil up the Danube. German occupation of much of the region during the First World War nullified frontiers, but within a controlled Kriegswirtschaft (war economy) there was scant trade to flow across them.

### Post-Habsburg Europe

The leitmotif for eastern Europe in the Versailles and Trianon peace treaties (1919, 1920) was national selfdetermination: Poland and Albania were reborn; Hungary, Czechoslovakia, and parts of a new Yugoslavia were separated from the Austro-Hungarian Empire, as was Transylvania, to enlarge Romania. Soviet Russia after Lenin's 1917 revolution lost territory to Poland and Romania. The immediate economic damage of the new frontiers was the disappearance of the Austro-Hungarian customs area: at the Portorosa Conference (1921) the successor states negotiated a set of protocols that could have restored a low-tariff basis, but governments never ratified them, and by the time of another failed attempt, the Geneva Conference of 1927, mutual tariffs were 39 percent of price. The reason lay in the smaller states' fear of economic and financial domination by Budapest and Vienna: Czechoslovakia, Romania, and Yugoslavia were concerned lest Hungary reinstate itself territorially or commercially. Nevertheless the foreign trade turnover of all seven, like that of the USSR (the title formally adopted by that nation in 1924) during its New Economic Policy (1921–1928), expanded during the 1920s. The reverse was true of the 1930s. The industrial exports of Czechoslovakia and Poland were worst hit by the world depression after the 1929 stock market crash, but all of the countries concerned lost export earnings as raw material and agricultural prices collapsed. Over the two interwar decades most exported only one-tenth of their national product (but almost double that in Czechoslovakia and Hungary), while after 1928 the Soviet Union retreated into near autarky under Stalin's five-year plans (by 1937) it exported only 0.5 percent of an enlarged national product). The Eastern European reaction to the depression, as elsewhere in the developed world, was to erect higher protective tariffs and restrict currency convertibility. Apart from Czechoslovakia, which was a net capital exporter in the 1920s, the region borrowed substantially from Western Europe, but creditor-currency devaluation and the shrinkage of financial markets brought the ratio of the Eastern European countries' external debt down to 18 percent of GNP by 1938. Overall, the interwar years were an abnegation of regional globalization.

Already before World War II Nazi Germany had imposed a Reichsmark clearing system on its Eastern European trade partners except for Poland; this at least assured them of markets in a depressed world, but Germany's rearmament left few goods and services upon which they could spend otherwise inconvertible balances. In essence they were financing that arms drive. Beginning with the annexation of Sudetenland from Czechoslovakia in 1938, German (and in the Balkans, Italian) occupation policies, and those of its client states, subordinated eastern Europe to German economic requirements, formulated as a Grossraumwirtschaft (the economy needed to support German territorial expansion). The region, and the western USSR after the 1941 invasion, were to be tributaries of farm produce and raw materials to a German "core" of heavy industry, into which only the German "protectorate" of Bohemia-Moravia was economically incorporated.

#### The COMECON Era

Eastern Europe endured a further occupation when the Soviet armies swept to victory in 1945. By 1947 the governments of eight states were under Communist rule (Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Romania, the USSR, and Yugoslavia), and in 1949 the USSR adapted its Zone of Occupation in Germany into the German Democratic Republic. If the decisive break with the Western market economies is to have a date, it would be 1947, when the Soviet Union and its subordinate states rejected participation in the Marshall Plan and in the ensuing Organization for European Economic Cooperation. In ostensible compensation for the absence of a corresponding body for Eastern Europe, the USSR sponsored the establishment of a Council for Mutual Economic Assistance, commonly abbreviated to COME-CON, in 1949. By then Yugoslavia had broken with the USSR and Albania had changed allegiance from Yugoslavia to the Soviet Union. COMECON included Albania briefly in its membership, and later two other Soviet allies, Cuba and Mongolia. In the 1950s and 1960s a steady 60 percent of members' exports were directed to each other—exports predominantly of Soviet raw materials against Eastern European equipment and manufactures. Trade was underwritten among COME-CON members by a mutual coordination of annual and longer-term plans for each economy, and trade with the West deterred by strategic embargoes and restrictions imposed by NATO members through a Consultative Group Coordinating Committee (CoCom). As the imper-

That's the public school [that is, British private school] system all over. They may kick you out, but they never let you down. • Evelyn Waugh (1903-1966)

atives of the Cold War weakened and estimates of comparative trade advantage strengthened, the mutual export dependence among COMECON nations diminished: by 1980 it was 49 percent and by 1990, 38 percent.

#### Post-Communist Globalization

The collapse of communist regimes in all COMECON states between 1989 and 1991 brought the Council to an end and opened the trade of the twenty-seven countries of Central and Eastern Europe and the Commonwealth of Independent States (CIS) to worldwide globalization: by 2002 only 21 percent of their exports moved within the region, while 73 percent were to other developed market economies (6 percent were with developing countries). Capital from the West supported economic development. Foreign direct investment amounted to \$34 billion in 2002; gross external debt was in aggregate 46 percent of Eastern European GDP with 44 percent of that in the CIS alone. All but three countries (Belarus, Turkmenistan, and Uzbekistan) had by 2003 liberalized trade and current payments, and all but those three and six others (Azerbaijan, Bosnia-Herzegovina, Kazakhstan, Russia, Serbia-Montenegro, Tajikistan, and Ukraine) had joined the World Trade Organization. Once it had been opened to commercial and financial flows like those of most developed economies, scant rationale remained for considering Eastern Europe as a distinct trading region. As the European Union extended its membership (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia, Slovenia, and Poland joined in May 2004), what had once been trade between blocs became the internal trade of a Single Market or trade with countries having association agreements with the EU.

Michael Kaser

See also Hanseatic League

## **Further Reading**

- Baldwin, D., & Milner, H. (Eds.). (1990). East/West trade and the Atlantic alliance. London: Macmillan.
- Birch, G., & Saunders, C. (Eds.). (1989). East/West relations in the 1980s. London: Macmillan.

- Boardman, J., Edwards, I.E.S., Hammond, N.G.L. and Sollberger, E. (Eds). (1982). The Cambridge ancient history: Vol. 3, Part 1. The prehistory of the Balkans; the Middle East and the Aegean world, tenth to ninth centuries B.C. (2nd Ed.). Cambridge, UK: Cambridge University Press.
- Boardman, J., Hammond, N. G. L., Lewis, D. M., & Ostwald, M. (Eds.). (1998). The Cambridge ancient history: Vol. 4. Persia, Greece and the Western Mediterranean, c.525 to 479 BC (2nd ed.). Cambridge, UK: Cambridge University Press.
- Bowman, A., Garnsey, P. and Rathbone, D. (Eds). (2000). The Cambridge ancient history: Vol. 11. High Empire, A.D. 70-192 (2nd Ed.). Cambridge, UK: Cambridge University Press.
- Cameron, A., Ward-Perkins, B. and Whitby, M. (Eds). (2000). The Cambridge ancient history: Vol. 14. Late antiquity: Empire and successors. Cambridge, UK: Cambridge University Press.
- Csikos-Nagy, B., & Young, D. G. (Eds.). (1986). East-West economic relations in the changing global environment. London: Macmillan.
- Falkus, M. E. (1972). The industrialisation of Russia 1700-1914. London: Macmillan.
- Franck, I. M., & Brownstone, D. M. (1986). The Silk Road: A history. New York: Facts on File.
- Hanson, P. (1988). Western economic statecraft in East-West relations. London: Routledge.
- Kaser, M. C. (1967). Comecon: Integration problems of the planned economies (2nd ed). Oxford, UK: Oxford University Press.
- Kaser, M. C., & Radice, E. A. (Eds.), (1985). The economic history of Eastern Europe 1919-1975 (Vol. 1). Oxford, UK: Oxford University
- Kaser, M. (1990). Trade relations: Patterns and prospects. In A. Pravda & P. Duncan (Eds.), Soviet-British relations since the 1970s (pp. 193-214). Cambridge, UK: Cambridge University Press.
- Mathias, P., & Postan, M. M. (Eds.). (1978). The Cambridge economic history of Europe from the decline of the Roman empire: Vol. 7. The industrial economies: Capital, labour, and enterprise. Part 1, Britain, France, Germany and Scandinavia, The United States, Japan and Russia. Cambridge, UK: Cambridge University Press.
- Miller, E. and Postan, M. (Eds). (1987). The Cambridge economic history of Europe: Vol. 2. Trade and industry in the Middle Ages (2nd Ed.). Cambridge, UK: Cambridge University Press.
- Miller, E., Postan, M. and Rich, E. E. (Eds). (1979). The Cambridge economic history of Europe: Vol. 3. Organization and Policies in the Middle Ages (2nd Ed.). Cambridge, UK: Cambridge University Press.
- Radice, E. A. (1986). The German economic programme in Eastern Europe. In M. C. Kaser & E. A. Radice (Eds.), The economic history of Eastern Europe 1919-1975 (Vol. 2, pp. 229-308). Oxford, UK: Oxford University Press.
- Rich, E.E. and Wilson, C.H. (Eds). (1967). The Cambridge economic history of Europe: Vol. 4. The economy of expanding Europe in the sixteenth and seventeenth centuries. Cambridge, UK: Cambridge University Press.
- Saunders, C. T. (Ed.). (1985). East/West trade and finance in the world economy. London: Macmillan.
- Sutton, A. C. (1968). Western technology and Soviet economic development 1917-1930. Stanford, CA: Stanford University Press.
- Teichova, A., & Cottrell, P. L. (Eds.). (1983). International business and Central Europe 1919–1939. Leicester, UK: Leicester University Press.
- Tucker, J. (2003). The silk road: Art and history. London: Philip Wilson. Whitlock, M. (2002). Beyond the oxus: The central Asians. London: John Murray.

## Trading Patterns, Indian Ocean

The physical features of the Indian Ocean have fundamentally shaped the development of trading patterns in the region throughout history. Historians offer different perspectives on the chronology and regional boundaries of Indian Ocean trade depending on their vantage points, but the basic elements of states and empires, navigation and mapping, goods and services, and transportation technologies need to be taken into account in any long-range analysis of trading patterns in the Indian Ocean.

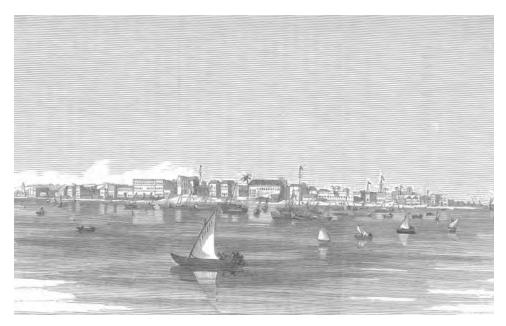
# Geography and Climate of the Indian Ocean

The Indian Ocean is the site of the most ancient and complex maritime migrations and trading networks of all Earth's oceans. Covering an area of over 73.4 million square kilometers, extending approximately 6,400 kilometers at the equator and more than 9,900 kilometers at its widest point from the tip of southern Africa to the west coast of Australia, the Indian Ocean is the smallest of the three major global oceans. It is bounded on the east by Africa, on the north by Asia, on the west by Australia and on the south by Antarctica. Twenty-six continental nations have coastlines with access to the Indian Ocean. The Indian Ocean is home to four island nations and three archipelagic nations. It has more major rivers flowing into its waters than any other ocean, and these river outlets have been essential to the ebb and flow of trading networks. The Zambezi and Limpopo enter the ocean in Mozambique; at the border region of Iraq and Iran, the Tigris and the Euphrates meet at the confluence of the Shatt al Arab near the coast; in Pakistan the Indus meets the ocean; and on its path through India the Ganges meets the Brahmaputra to create the delta region of Bangladesh. The Irrawaddy flows through the length of Myanmar (Burma) to the waters where the Bay of Bengal meets the Andaman Sea. This complex network of rivers and coastal regions that connect inland to ocean have been as essential to trade as the ocean itself.

The seas, gulfs, and straits of the Indian Ocean, including the Red Sea, the Persian Gulf, the Arabian Sea, the Bay of Bengal, and the Strait of Malacca, have been areas of intense trading activity from the beginning of human seafaring. But it is the unique nature of the Indian Ocean wind patterns that have enabled the development of maritime trading patterns around the it and linking it to the Atlantic in the west and the South China Sea and Pacific Ocean in the east. Although the advent of air traffic has altered the global networks of trade, the complexities of interaction in the Indian Ocean have not diminished. The trading patterns of the Indian Ocean link the most populous regions in the world. Moreover, the Indian Ocean incorporates those regions that together constitute the bulk of the global oil trade, which has always been a maritime commodity.

The earliest maritime technologies were based on sailing craft that by nature depended on the vagaries of wind patterns and ocean currents that carried the vessels across the sea. Absolutely basic to any long-term historical analysis of the Indian Ocean is a consideration of the monsoon winds. The Indian Ocean is unique in having a seasonal pattern of winds that facilitate transoceanic shipping. The monsoons are caused by differences in the temperature of air above land and sea, which generate wind that blows from cold to hot regions. In the Indian Ocean the biannual monsoons blow from the south and west during April through August, reversing direction between December and March. Seasonal patterns of high and low rainfall correspond with these winds to varying degrees outside the equatorial regions, although in peripheral areas the impact on rainfall is minimal. The word monsoon derives from an Arabic word, mausim, and the Arabs, Indians, and Persians called the Indian Ocean area "the land below the winds" in recognition of the importance of these wind patterns.

The second major wind pattern is the trade winds of the southern Indian Ocean that occur between 10 degrees and 30 degrees South and that blow consistently from the southeast. This trade route directly across the



The coastal ports of East Africa were one terminus for the Indian Ocean trade. This drawing shows Zanzibar from the sea.

breadth of the Indian Ocean was not commonly used before seventeenth-century European traders entered these waters from the Atlantic.

### Early Mariners

The Indian Ocean was probably the first ocean traversed by mariners. Technologies of seafaring developed in the first human coastal settlements, whose inhabitants relied partly on fish for their subsistence. Various delta and coast-hugging maritime networks existed from the earliest known times. The regional networks of the Red Sea and Arabian Sea, the East African coast, the coasts of South Asia, and in the archipelagic regions of Southeast Asia developed their own patterns of maritime trade and technology.

The Egyptians and Mesopotamian civilizations traded along the coastal networks of the Red Sea and Persian Gulf over 7,000 years ago, but their maritime voyages did not extend into the open ocean. Overland trade was far more extensive than maritime trade during this early period.

Southeast Asian seafaring evolved as people migrated from the mainland and established the first human settlements in the vast Indonesian archipelago. Linguistic and archaeological evidence suggests that Austronesianspeaking Malayo-Polynesian mariners from Indonesia crossed the Indian Ocean in their single- and doublehulled canoe outriggers during the first millennium BCE. These ships were stable and fast enough for transoceanic voyages, and the mariners used their knowledge of ocean

currents, clouds, stars, and the habits of birds and fish to find their way across the oceans. While these voyages led to permanent settlement, it is probable that the initial incentive was trade.

During this period, oceanic trading links developed between the Persian Gulf soci-

eties and those on the northern coast of India. By the time an anonymous Greco-Egyptian trader wrote the Periplus of the Erythrean Sea (c. 50 CE) as a guide to trade with the port polities along the length of the East African and South Asian coasts, these trading network was already well established. A myriad variety of luxury goods, including spices, aromatic woods, cloth, ceramics, precious metals, and currency, as well as the forced migration of slaves, constituted some of the items of trade in these Indian Ocean networks.

#### Transmission of Religion along Indian Ocean Trade Routes

Cultural influence accompanied trade in the Indian Ocean, but the region has always been cosmopolitan rather than unified. In the first centuries of the common era, Hindu and Buddhist traders and religious specialists were invited to settle in Southeast Asian polities. The first large-scale states of Southeast Asia adopted and adapted Hindu and Buddhist cultural practices as part of their state formation. One such state was the Srivijaya maritime empire on Sumatra. From its emergence in the seventh century to its decline in the thirteenth, the Srivijaya empire prospered because of its control of the Malay Peninsula and the Strait of Malacca that linked Asia to China by sea.

From around 1300, transoceanic trading links between the Middle East and South Asia and thence to Southeast Asia helped spread Islam in the Indian Ocean.

### Colonial Goa

Goa was taken by the Portuguese in 1510 from its Muslim rulers and became the center of Portuguese India. The Portuguese reluctantly gave it up after India achieved independence in 1947.

Goa, the Metropolis of India, under the Dominion of the Crown of Portugal, stands on an Island about 12 Miles long, and 6 broad. The City is built on the North Side of it, on a Champain Ground, and has the Conveniency of a fine salt Water River, capable to receive Ships of the largest Size, where they ly within a Mile of the Town. The Banks of the River are beautified with noble Structures of Churches, Castles and Gentlemens Houses; but in the City, the Air is reckoned unwholsom, which is one Cause why at present it is not well inhabited. The Vice-roy's Palace is a noble Edifice, standing within Pistol Shot of the River, over one of the Gates of the City, which leads to a spacious noble Street, about half a Mile long, and terminates

at a beautiful Church, called Misericordia. The City contains many noble Churches, Convents, and Cloisters, with a stately large Hospital, all well endow's, and well kept. The Market-place stands near the Misericordia Church, and takes up about an Acre square, where most Things of the Product of that Country are to be sold; and, in the Shops about it, may be had what Europe, China, Bengal, and other Countries of less Note furnish them with. Every Church has a Set of Bells, that one or other of them are continually ringing, and, being all christned, and dedicated to some Saint, they have a specifick Power to drive away all Manner of evil spirits, except Poverty in the Laity, and Pride in the Clergy; but, to those that are not used to nocturnal Noises, they are very troublesom in the Nights.

Source: Hamilton, A. (1702). A New Account of the East Indies, As quoted in H. Brown (Ed.), The Sahibs (pp. 23–24), (1948). London: William Hodge & Co.

The foundation of the state of Melaka on the Malay peninsula and the conversion of its ruler to Islam both occurred around 1400; Melaka became one of the richest and most cosmopolitan trading entrepôts in the world before its conquest by the Portuguese in 1511. The growth of Melaka and the spread of its influence mark the beginning of the spread of Islam that occurred in parts of the coastal mainland and much of insular Southeast Asia. Meanwhile, on the opposite side of the Indian Ocean the East African Swahili coastal civilizations were expanding, and from the twelfth century onwards they too were converting to Islam.

# The First Traders from Outside

The voyages of the Chinese treasure fleet between 1405 and 1433 under the command of Zheng He signal a change in the trading patterns of the Indian Ocean. Zheng He's was the first major fleet that had originated in other oceans to make its way into the networks of the Indian Ocean. The size of the Chinese fleet was unprecedented. Over three hundred large trading vessels and a hundred supply ships manned by 28,000 sailors and soldiers crossed the Indian Ocean for the purposes of trade and

diplomacy. The dimensions and capacities of the largest Chinese junks dwarfed the most advanced European, African, and other Asian shipping technology at the time. Although the direct maritime involvement of China in the Indian Ocean ended with Zheng He, it presaged the arrival of the Portuguese, who made their Indian Ocean debut with the 1497–1499 voyage of Vasco da Gama.

Despite the Chinese and Portuguese forays into the Indian Ocean, Muslim traders of all nations were the major mariners throughout the Indian Ocean during this period. Around 1490, Ahmad Ibn Majid wrote the Fawai'd, a famous nautical manual that included detailed astronomical instructions. Over the course of the sixteenth century and through to the end of the eighteenth century, improved maritime technologies and the expansion of trading networks shifted the emphasis from small-scale cargoes of various luxury goods toward bulk trade in spices and other commodities. The increasing pilgrimage trade that brought Muslims from throughout the Indian Ocean region to Mecca was also a significant component of trading networks.

Historians still argue about the significance of European involvement in the Indian Ocean in the early modern period. It is probable the majority of ordinary people's daily lives in Indian Ocean societies changed minimally, if at all. The entrance of European traders into the region did not cause a breakdown of the complex webs of trading networks. Trade with China through these networks was for centuries more significant than trade with Europe.

### The Growth of European Influence

The era of the European chartered companies, which were founded in the seventeenth century, did alter the scope of trading networks by bringing Indian Ocean polities into direct maritime contact with Europe and the Atlantic world. Europeans voyagers had initially come by sea to the Indian Ocean as a consequence of their search for a way to circumvent overland trade routes to the fabled Spice Islands. Once they encountered the rich and varied maritime trade of the Indian Ocean, however, they inserted themselves, often through force, into all the major networks in the region. Indigenous trade and shipping did not disappear but was disrupted with the rapid expansion of commercial capitalism in the region. Although the spices provided the initial impetus for trade, the major commodities that stimulated this commercial revolution were cotton and textiles from India. The European demand for Chinese tea stimulated the production of opium in South Asia: Opium was traded in Southeast Asia for the silver and pepper that was traded in China for the purchase of tea.

European weapons technology, one of the few commodities from Europe that was in demand in the Indian Ocean region, altered the dynamics of state formation and conflict. In Southeast Asia, the increasing presence of Portuguese, Dutch, and English trading posts and colonies, established through conquest and diplomacy, fractured many of the existing maritime and territorial empires, which then reconfigured in smaller-scale polities. This era laid the groundwork for direct European colonization and strengthened imperialist networks that introduced changes in crop production, raw-materials extraction, and commodities production throughout the region. The overall volume of trade increased dramatically, though it continued to be linked to trade with China.

Indigenous shipping was essential to local and regional trade, and new transoceanic trading networks, controlled by European ships, were partly crewed by sailors from all over the Indian Ocean. But indigenous shipping was confined to the Indian Ocean networks. No African, Middle Eastern, or Asian vessels rounded the western edge of the Indian to trade directly with West Africa or Europe.

By the end of the eighteenth century, the scope and scale of Indian Ocean trade had changed dramatically. The Dutch colony at the Cape of Good Hope at the southern tip of Africa made it easier for European shipping to access the Indian Ocean from the mid-sixteenth century onwards. The Cape became part of an entirely new southwestern Indian Ocean regional trading network in which one of the major commodities was slaves.

### Plantations and the Expansion of Global Capitalism

Much of the East African coast and the islands of Pemba and Zanzibar came under the rule of the Omani maritime empire around the beginning of the nineteenth century, creating a western Indian Ocean trading network from East Africa to the Middle East and South Asia largely based on ivory, cloves from clove plantations, and slaves. The islands of Madagascar and Mauritius became European slave-plantation colonies, while plantation agriculture grew throughout the region. Tea from India, coffee from Indonesia, and sugar from many Indian Ocean societies became three of the most significant plantation crops during this time.

In the late eighteenth century, the British had established convict colonies on the coast of Australia. This added another component to trade and forced migration in the Indian Ocean and extended European conquest and colonization to the eastern periphery of the region. In the nineteenth century direct colonization and trade between Europe and Indian Ocean societies intensified. Both South Africa and Australia became dominated by European settlers. Societies in the region became increasingly integrated into, dependent upon, and marginalized by, the expansion of the global capitalism. As the industrial revolution stimulated demand for raw products from around the region, markets were created for European goods, and indigenous production that competed with them was forcibly disrupted. Colonial rubber plantations were established in the East Indies, India, and Ceylon (now Sri Lanka) during the course of the late nineteenth and early twentieth centuries.

Insatiable demands for labor worldwide also created a huge international market for workers that created new networks in the Indian Ocean. While slaves initially provided the main source of labor, gradual emancipation during the course of the nineteenth century stimulated indentured servitude. India in particular became a major source of indentured workers, who were contracted all over the world.

# New Patterns in the Indian Ocean Region

The development of European empires and colonies shifted the pattern of major ports and polities in the Indian Ocean over the long term. The earliest major example of this was the displacement of Melaka, which declined rapidly after Portuguese and then Dutch conquest. The Dutch purposefully diverted trade from Melaka to Batavia (present-day Jakarta) on the island of Java from the mid-sixteenth century. The coastal or near-coastal cities of Bombay (now Mumbai), Madras, and Calcutta became major trading bases for the British in South Asia, while the older inland cities of Delhi in India, Kandy in Ceylon, and Jogjakarta in Java declined in importance. The intensification of coastal commerce also shifted the emphasis of indigenous state formation, which had formerly been concentrated inland along rivers, toward the coast.

European colonization from the late eighteenth century consolidated this trend with the establishment of port cities such as Penang and Singapore in Southeast Asia, which were entirely the product of British imperialism. Rangoon (now Yangon) became the center of trade in Burma under the British, displacing the ancient rice-producing hinterland cities. In East and southern Africa, new ports such as Durban and Lourenço Marques (now Maputo) were founded, while older ports, including Dar es Salaam (in present-day Tanzania) and Mombasa (in Kenya), came under European control.

### Technological Advances and Changes in Indian Ocean Trade

Changes in maritime technology during the nineteenth century profoundly altered the dimensions of Indian Ocean trading networks. Wooden-hulled ships gave way to iron-hulled ones, but more important was the gradual displacement of the great sailing vessels by steamships that were less dependent on the wind patterns of the Indian Ocean and that reduced the time of voyages. The opening of the Suez Canal in 1869 allowed direct maritime access from the Mediterranean to the Indian Ocean, creating an entirely new network of trade in the region. Steamships had stimulated the demand for coal worldwide, and new mining industries grew up in places like South Africa and Australia. Improved ship design and the development of canning and refrigeration from the late nineteenth century onward transformed the fishing industry in the Indian Ocean from an indigenous and regional trade into an international trade that was part of the global commercial trading networks.

The displacement of steam by fuel derived from oil in the early twentieth century thrust the oil-producing countries of the Indian Ocean into global prominence. By the late twentieth century it also integrated the southernmost territory, Antarctica, into Indian Ocean networks through exploration and possession, if not direct exploitation. The trade in oil is largely a maritime trade and therefore had an effect on the evolution of shipping technology. Purpose-built oil tankers, as well as bulk and oil carriers, currently constitute the largest proportion of shipping vessels in the world. The size and capacity of oil tankers has expanded exponentially since the 1950s, from about 46,000 to 555,000 metric tons.

The advances in airplane technology from the midtwentieth century, initially stimulated by the intensification of global warfare, has been one of the major motors of globalization. The trading and migration networks of the Indian Ocean have expanded to include air routes. Airplanes have made possible networks that are independent of geographical or oceanic impediments, and the volume of both cargo and passenger air traffic in the Indian Ocean continues to grow rapidly. Airplanes enable people to travel faster and further than any other form of



A trading village in Malaysia in the nineteenth century. Note that the traders are Malays and Chinese.

transport, stimulating migration and tourism as major economic factors throughout the Indian Ocean. Although indigenous shipping technology has not entirely disappeared in the Indian Ocean, it has been marginalized by these transportation innovations.

### From the End of **World War II to the Present**

By the end of the twentieth century all the nations of the Indian Ocean had gained independence from colonial rule. World War II was an important stimulus to this trend and marks a turning point in the region. Britain and the Netherlands were focused on the European war at the expense of their colonies. Communication between Europe and the Indian Ocean was disrupted, while in Southeast Asia the expansion of the Japanese empire included the conquest of Singapore, Indonesia, and Burma, and the replacement of colonial regimes by nationalists. Indian nationalists demanded independence; the result was the partition of India into the independent nations of India and Pakistan in 1947, followed in 1971 by the creation of Bangladesh from the former East Pakistan. African colonies gained independence by the 1970s.

The Cold War changed the geopolitical significance of the Indian Ocean nations, bringing the United States and the Soviet Union into Indian Ocean politics. The Middle East oil-producing states became a global focal point, and nationalist governments were closely monitored. Global

geopolitical networks such as the nonaligned movement, which was inaugurated in Indonesia in 1955, attempted to establish an alternative to Cold War allegiances for newly independent states. The Organization of Petroleum Exporting Countries (OPEC) was founded in Baghdad in 1960 as a global organization for oilproducing countries that had

hitherto not benefited from the profits of their resources. Middle Eastern states and Indonesia were founding members. Despite the existence of those movements and organizations, the states of the Indian Ocean have not created their own regional body. African States belong to the African Union, formed in 2002 from the dissolution of the Organization of African Unity (1963–2002). Southeast Asian states belong to the Association of Southeast Asian States (ASEAN), which was established in 1967. Processes of globalization continue to accelerate, and Indian Ocean trading networks can in most cases be incorporated into this trend.

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## **Further Reading**

Barendse, R. J. (2002). The Arabian seas: The Indian Ocean world of the seventeenth century. Armonk, New York: M. E. Sharpe.

Chaudhuri, K. N. (1990). Asia before Europe: Economy and civilization of the Indian Ocean from the rise of Islam to 1750. Cambridge, UK: Cambridge University Press.

Hall, R. (1996). Empires of the monsoon: A history of the Indian Ocean and its invaders. London: Harper Collins.

Kearney, M. (2004). The Indian Ocean in world history. New York: Routledge.

McPherson, K. (1993). The Indian Ocean: A history of people and the sea. Delhi, India: Oxford University Press.

Middleton, J. (2004). African merchants of the Indian Ocean: Swahili of the East African coast. Long Grove, IL: Waveland Press.

Pearson, M. N. (2003). The Indian Ocean. New York: Routledge.

Risso, P. (1995). Merchants and faith: Muslim commerce and culture in the Indian Ocean. Boulder, CO: Westview Press.

Scarr, D. (1998). Slaving and slavery in the Indian Ocean. London: Macmillan.



## Trading Patterns, Mediterranean

The Mediterranean Sea is a deep geological depression that physically divides three continents, yet since the invention of seacraft it has actually served to foster and sustain a whole range of transcontinental economic and cultural exchanges. Indeed, the Mediterranean and its hinterlands are deemed by historians to form a historical unit. Trade in particular has given the entire region a coherence that allows us to speak of a Mediterranean "world." Local and regional sea routes had been the lifeblood of its islands and coastal settlements from at least the third millennium BCE through to the beginning of the twentieth century CE, while long-distance trade across the length and breadth of the basin has effected considerable and ongoing cross-cultural interaction since the start of the first millennium BCE.

Despite the limited productive capacity of Mediterranean agriculture, this region has probably been the most urbanized in world history. The role of trade has been fundamental. The Mediterranean world was dominated by port cities (e.g. Barcelona, Alexandria, Tyre) or cities with ancillary ports (e.g. Florence-Livorno). Fifthcentury Athens and imperial Rome were especially reliant on cereals imported from the Black Sea and North Africa, respectively, and when regular grain sources were threatened, the Mediterranean always provided swift access to alternative sources.

### Environmental Features

The Mediterranean has offered a relatively favorable environment for mariners. Compared to the Atlantic Ocean, for example, the Mediterranean enjoys a much milder climate year round, with lighter winds and less turbulent swells. Prior to the advent of mechanized shipping, seaborne traffic was conducted normally from March through to October, when conditions were milder, and when clear skies and stars facilitated navigation. Winds and currents determined the general pattern of longdistance trade routes throughout the Mediterranean, in which the main current runs counterclockwise around the entire sea basin. The Atlantic, which replenishes 71 percent of annual water loss in the Mediterranean, propels the main current through the Strait of Gibraltar, which moves along the North African coast to the Nile Delta, from where it is forced northwards along the Syria-Palestine littoral. The current continues along the southern European coastline (including the Adriatic) back to Gibraltar. The prevailing winds through the sailing seasons come from between northwest and northeast, which means that sailing ships had to negotiate winds and currents that often ran in opposite directions. Traffic along the northern Mediterranean overcame potential difficulties by sailing between the string of islands from Cyprus in the east to the Balearic Islands in the west. Longdistance trade until the end of the Middle Ages more or less conformed to trunk routes that negotiated the sensitivities of the main currents and winds.

Long-haul traffic appeared to favor the northern littoral. The North African coastline lacks natural harbors and is made treacherous by reefs and sandbanks, but it was utilized heavily by some of the world's most formidable seaborne powers, (e.g., Phoenicians, Carthaginians, Arabs, Algerian corsairs). In contrast, the northern shoreline is blessed with deep waters and with ample options for safe anchorage. Ships of all sizes could find a dense infrastructure of dockyards, deepwater anchorage, and other port facilities from Gibraltar through to the Levant.

### **Prehistory** and Antiquity

Historians tend to focus on long-distance commercial ventures when dealing with trading patterns, but it was the more localized activities that set the rhythms of Mediterranean economic life. The stir and bustle of even the largest ports, such as early modern Istanbul and Naples, were mainly attributable to the daily comings and goings of localized traffic. Such small-scale trade was mainly characterized by cabotage, the free movement and peddling of small cargo, often along ill-defined and changing routes. Always a cheaper and more efficient option to land transport, cabotage was probably responsible for the bulk of total cargo transfers before the advent of mechanized shipping. Such "ground-level" movement also saw goods relayed from port to port, and hence across long distances, thus contributing effectively to the broader trading system. The vigor and unity of the Mediterranean world probably owed more to the sum effect of such unquantifiable and unpredictable local trade patterns than to large-scale traffic.

Regional-level trade can be traced back to the Neolithic Era (perhaps as early as 7000 BCE, from when we can date the first signs of seafaring). Archaeologists have also uncovered remnants of trading harbors that

point to the existence of sea-lanes connecting mainland Greece and Crete with Anatolia. Seaborne exchanges between Egypt and Mesopotamia, via port cities on the Levantine coast, date back to the fourth millennium BCE. Metals and luxury items appeared to be the most valuable trading commodities: Egypt and Mesopotamia exchanged gold and silver respectively. By the Bronze Age (c. 2500 BCE), a sizable seaborne network had emerged. Crete and Cyprus were incorporated into a trading network with Egypt and the Levant. Minoan Crete and Mycenaean Greece had, by the second millennium BCE, created seaborne trading empires held together by trading colonies in distant parts of the Mediterranean. Mycenaean settlements have been uncov-

ered in Sicily, Sardinia, and mainland Italy.

Bronze Age trading networks collapsed somewhat mysteriously, as did most eastern Mediterranean states and cities, around 1200 BCE. The revival was led by the Phoenicians, who, from about 1000 BCE, built a trading empire that stretched across the length of the Mediterranean. The Phoenicians effectively created the first Mediterranean trading system. Their main interest was securing raw metals from as far away as Rio Tinto in Spain, which they exchanged for craft goods and luxury items manufactured in the Levant. The Phoenicians dominated the sea through a network of settlements and emporia, and trade would serve as the conduit for the dissemination of Phoenician culture, particularly across North Africa and southern Spain. From about the eighth century BCE, belated competition came from the Greeks, who, following the Phoenician model, established city-states and emporia mainly across the northern Mediterranean coastline,

This photo shows the partially excavated ruins of the old market (agora) in Athens, Greece, in 2003 with the modern market above.

and getting as far west as Provence and Catalonia. Greek culture was effectively established along the Black Sea and Anatolian littoral, western Sicily, and along the southwestern Italian littoral.

From the middle of the third century BCE, the center of political gravity in the Mediterranean shifted gradually from

the Levant to central Italy. At the beginning of the first millennium CE, Roman legions had already conquered the entire Mediterranean world, making it their own sea (mare nostrum). The empire did not function as a coherent economic system, but Roman dominion made changes that were beneficial across the board: piracy was contained, merchants operated under one legal system, and the Romans established a fully monetarized economy. Marine archaeologists suggest that the relatively large number of discovered shipwrecks that date from 100 BCE to 300 CE point to trading activity on a scale that would not be seen again until the late Middle Ages. Ships of between 250 and 400 tons were commonplace, with many servicing the city of Rome's voracious appetite for grain. Much of that grain supply was organized and paid for by the state, otherwise Rome's domestic and interstate trade was the preserve of private interests. Tellingly, the empire's wealthiest and most vibrant cities and territories were located on, or near, the Mediterranean coastline.

For late antiquity and the early Middle Ages, the evidence for Mediterranean trade is patchy and inconclusive. Despite the rapid accumulation of new archaeological data, scholars remain divided over the degree to which the Mediterranean world experienced a prolonged economic depression. Certainly, large-scale trade continued through to the mid-sixth century and would not recover until the tenth. However, it also appears that neither the fragmentation of the Roman empire, the Arab conquests, the revival of piracy, or plague greatly disrupted the rhythms of localized trading activity, from which the



The Grand Canal in Venice in the 1990s, at one time the major port for the Mediterranean trade.

Mediterranean world had long derived its essential vitality. It remained a world of cities, especially Italy and the eastern Mediterranean, for which maritime activity remained as critical as ever. Christian and Muslim pilgrimage to Jerusalem and Mecca was now an additional feature of seaborne traffic. Despite intermittent con-

flict between Muslim and Christian powers, Christian, Jewish, and Muslim merchants could nearly always be found plying their trade in most Mediterranean port cities. Along the Red Sea and Indian Ocean, the Mediterranean would also remain a vital channel for communications across the Islamic world system.

### The Rise of City-States

The eleventh century witnessed the ascendancy of the Italian city-states, especially Venice and Genoa, which led the gradual revival of large-scale seaborne trade. Capitalizing on the turmoil inflicted upon the Muslim and Byzantine worlds by the Crusades (1096–1291), Venice and Genoa secured trading privileges and colonies that provided a platform for Mediterranean trade hegemony. Their highly maneuverable long galleys and heavy cargocarrying vessels gave them another advantage. More importantly, the Genoese and Venetian states played a significant role in organizing maritime activities, regulating practices, and orchestrating responses to challenges. In the fourteenth century, for example, they oversaw the introduction of a range of cheaper, yet more efficient, galleys and cargo-carrying round ships that counteracted a cost crisis and effectively stimulated greater maritime activity. Moreover, the Italians developed ever more sophisticated means for financing and sustaining ongoing commercial operations; by the fifteenth century largescale commercial operations were supported by companies and banking institutions (e.g., the Medici family). Until the end of the fifteenth century, Venice and Genoa dominated the movement of material goods, pilgrims, and slaves across the Mediterranean, and formed a vital part of the trade chain that linked Europe with East Asia (via the Silk Road) and Indian Ocean trading networks.

#### Domination by the **Great Powers**

From the sixteenth century, the Mediterranean became a subsidiary of much larger trading zones, especially the Atlantic. The Ottoman empire and a succession of Christian powers, beginning with Spain, followed by France, Holland, and England, vied for domination, yet none of these powers relied heavily on the Mediterranean for their prosperity. The Mediterranean world had lost its primacy, and historians have been inclined to ignore its history thereafter. The sea, however, continued to nourish the towns and cities of that world, even if life for Mediterranean communities appeared more precarious than ever. Indeed through most of the early modern period, the Mediterranean seemed to belong to no one. Largescale Christian and Muslim privateering flourished, as did the slave trade, yet such unsavory operations had always formed part of the Mediterranean redistribution system. The period witnessed the rise of a new kind of port city, such as Livorno and Smyrna, which was relatively free of restrictive traditional trading practices and political authority, which welcomed foreigners, regardless of faith, and which laundered pirate plunder.

By the nineteenth century, the Mediterranean was the subject of rivalries between the great powers, especially following the opening of the Suez Canal in 1869. By the 1880s, British, French, United States, and German commercial and financial interests were investing heavily in the Mediterranean, especially in Egypt and the Ottoman empire. The burgeoning trade saw the expansion of bustling multilingual entrepôts such as Smyrna, Salonika, Alexandria, Haifa, Suez, and Beirut. Northern Europeans were also traveling more frequently throughout the Mediterranean, especially after the Maghreb had been cleared of corsairs by the 1830s, and by the end of the century bourgeois travelers were visiting the archaeological sites of Egypt, Greece, and Rome in large numbers.

#### Steam Shipping and Tourism in the Modern Era

Perhaps the most important development in terms of the broader history of Mediterranean trade was the introduction of steam shipping, which had displaced traditional sailing craft by the end of the nineteenth century. Since then, land and air transport have diminished the importance of Mediterranean seaborne exchanges, though mechanized shipping remains important for provisioning island communities and transporting tourists. Oil tankers and luxury cruise liners have become a more familiar feature of the open seas. As a source of wealth, the sea assumed renewed importance through the late twentieth century. In 1973, 60 million visitors enjoyed their summer vacations along the Mediterranean coastline. Numbers increased dramatically with the establishment of cheap package holidays and the rapid expansion of coastal tourist facilities from the 1980s, and nowadays, coastal tourism is a vital source of income for the Greek, Turkish and Spanish national economies. For the foreseeable future, Mediterranean-trading patterns will be dominated by the traffic in leisure-seeking people.

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See also Greece, Ancient; Islamic World; Roman Empire; Ottoman Empire

## **Further Reading**

Abulafia, D. (Ed.). (2003). The Mediterranean in history. London: Chatto & Windus.

Attentborough, D (1987). The First Eden: The Mediterranean world and man. London: Collins/BBC.

Braudel, F. (1972). The Mediterranean and the Mediterranean world in the age of Philip II. London: Fontana.

Horden, P., & Purcell, N. (2000). The contentious sea: A study of Mediterranean history. Oxford, UK: Blackwells.

Inalcik, H., et al. (1994). An economic and social history of the Ottoman empire, 1300–1914. Cambridge, UK: Cambridge University Press.

Pryor, J. H. (1988). Geography, technology and war: Studies in the maritime history of the Mediterranean. Cambridge, UK: Cambridge University Press.



# Trading Patterns, Mesoamerican

Trade and exchange were ancient and pervasive activities throughout Mesoamerica (much of present-day Mexico and northern Central America). The great ecological diversity of Mesoamerica, from steaming tropical forests to highland mountains and plateaus, stimulated the development of extensive specialization and associated exchange networks. Trading activities became particularly prominent with the development of sedentary civilizations, from as early as 1600 BCE. Economic specialization associated with these civilizations required that individuals and communities exchange their specialized production for other necessary goods, while the development of hierarchical social systems encouraged elites to gain access to specific status-linked luxuries, often from distant regions. The production of surpluses also allowed individuals to exchange their excess yields or output for other goods they did not personally produce. These processes became important in the Formative period (c. 1600 BCE-250 CE) and increased during the Classic period (variably 250 CE-900 CE), becoming highly commercialized in the Postclassic period (900 CE–1521 CE). Evidence for trading activities during the Formative and Classic periods relies on archaeological investigations, while rich historical records augment archaeological data for unraveling Postclassic trading patterns.

## Types of Trade and Traders

Trade in Mesoamerica was multifaceted: It was carried on over long and short distances; involved producers, professional merchants, and elites; embraced utilitarian goods and luxuries; and took place in marketplaces and royal palaces.

Long-distance trade was typically the domain of the full-time professional merchant. Lacking beasts of burden and a practical use of the wheel, the transport system of Mesoamerica relied on human backs and canoes, and few rivers were navigable. A man could carry up to 20 kilograms with a tumpline across his forehead or shoulders, and could travel approximately 24 kilometers in a day, depending on the difficulty of the terrain. Most trade conducted in this manner over long distances involved low-weight, low-bulk, and high-value commodities such as feathers, precious stones such as turquoise and jadeite, gold ornaments, shells, and decorated textiles. In the Formative period and among the Classic Maya, goods such as these were used by the aristocracy for social and ritual display; this trade was managed by the elites and its focus on elite consumption and control defines it as a "prestige goods economy." During the more commercialized Postclassic period, Mesoamerican professional merchants served as both state agents and private entrepreneurs. In the Mayan area (present-day southern Mexico, Guatemala, and Belize) they appear to have been of elite social standing, while in central Mexico they emerge as a specialized, albeit ambitious, group of commoners. During the period of the Aztec empire (1430-1521), such merchants belonged to guildlike organizations and gained considerable political favor and economic wealth.

Much trade was conducted regionally and involved goods of medium weight, bulk, and value. Produced in specialized regions, these goods were typically carried and traded across ecological zones to areas where there existed a high demand for such goods and materials. The most common products were salt (especially from northern Yucatán), cacao (from coastal and southern lowland regions), rubber (also a lowland product), raw cotton (from coastal regions and inland areas below approximately 900 meters), and obsidian (from specific volcanic outcrops in mountainous areas). These were materials of nearly universal use in Mesoamerica: salt for diet, cacao as an elite and ritual beverage, rubber for the popular ball game and for use in religious ceremonies, cotton for clothing and other textiles, and obsidian as a multipurpose cutting tool and weapon. Some finished goods may also have fallen into this category; these include plain textiles woven of cotton or maguey (fibers from agave plants), paper, reed mats, and gourd bowls. A

### The Caribbean Trade

During Christopher Columbus's fourth voyage to the Western Hemisphere, he encountered a large Mayan dugout canoe laden with trade goods. The diversity of goods from far distant areas carried by these Mayan merchants is indicative of the scale of trade in Mesoamerica at the time of the Spanish arrival.

These merchants carried commodities from throughout Mesoamerica, including:

Cacao beans from the tropical lowlands;

Fancy textiles probably also from lowland sources:

Obsidian knives and swords from the highlands;

Bronze axes and bells from the Tarascan region of western Mexico;

Crucibles for smelting copper, also probably from western Mexico.

Source: Columbus, F. (1959). The Life of the Admiral Christopher Columbus by his on Ferdinand (B. Keen, trans.). New Brunswick: Rutgers University Press.

somewhat different type of commodity, fancy polychrome pottery, also falls into this category, although it was relatively heavy and probably carried a higher value than other goods carried in this manner. Transport of these raw and manufactured commodities was typically in the hands of professional regional merchants, although records from the Postclassic period also indicate that the actual producers sometimes carried their own goods over ecological zones for purposes of trade. The transport involved considerable effort, since nearly all of these goods traveled between lowlands and highlands.

A great deal of trade was carried on by individual producers, most of it over more restricted distances. This type of trade involved most foodstuffs, such as maize and beans, which were heavy, bulky, and relatively low in value; it was inefficient to incorporate such goods in longdistance trading enterprises. Other, similar goods included utilitarian pottery wares and wood products. Individual producers also took advantage of the marketplace setting to sell small lots of regular or seasonal surpluses, such as pottery, baskets, herbs, fruits, turkeys, and prepared foods such as tortillas and tamales.

#### Markets

The most pervasive context for trading activities was the marketplace. Every city and community (except for the very smallest) had a marketplace and held a market either daily or on a periodic basis (usually every five or twenty days). It was typically the liveliest spot of the community, where individuals from all walks of life congregated to exchange goods and gossip. During the period of Aztec imperial dominance, the largest marketplace in Mesoamerica had developed at Tlatelolco, also a major residence for long-distance professional merchants. By 1519, Tlatelolco was geographically and politically attached to Tenochtitlán, the Aztec (Mexican) capital city. Reportedly, this market accommodated as many as 20,000-25,000 vendors and consumers daily, while every fifth day it served twice as many people. Being the grandest market in the land, virtually every type of product and commodity, from far and wide, was available there. Other marketplaces were less extensive, serving smaller populations, fewer elite, and more restricted areas. Still other marketplaces became known for their specialties: For instance, lakeside Texcoco was known for ceramics, cloth, and fine gourds; forested Coyoacán focused on wood products and carpenters; the Basin city of Acolman was famous for its dogs; and Azcapotzalco, in the western part of the Basin of Mexico, had a noted market for slaves.

These scenes of bustling economic and social activity were commonplace during the Postclassic, but probably developed earlier. Marketplaces are difficult to detect archaeologically, since markets were often held in an open plaza, and once market day was over, the plaza was swept clean and returned to its original function. Therefore, only vague and spotty information on them exists for Formative and Classic times. However, a great deal of information on markets and market activities exists for the Postclassic and early colonial periods from historical documents that supplement the archaeological record.

During at least the Postclassic, markets served as the venue for exchanging the full range of commodities produced and manufactured in Mesoamerica. Professional long-distance merchants stopped frequently at market-places in their long and arduous treks to and from distant lands, trading local and exotic luxuries to their economic advantage. Regional merchants depended on the numerous marketplaces as they moved their specialized goods across ecological zones. Last but not least, individual producers relied on market days to maintain diversity in their material lives, whether for subsistence or an elevated standard of living. Any given marketplace, then, would see expensive and inexpensive goods, elite and commoner consumers, local and distant vendors and merchants, and familiar and exotic wares for sale.

The marketplace was not only a site for economic transactions, but also for the exchange of the most recent news and rumor. Indeed, under the Aztec empire, some specialized professional merchants were sent by the emperor to travel from market to market, disguised as local traders; their purpose was to ferret out information on political and military conditions in the region.

The local city-state also benefited from a lively market, as taxes were typically levied on vendors. A different sort of external involvement can be seen at the Tlatelolco marketplace, where professional merchants oversaw the functioning of the market and sat there as judges on market-related crimes and disputes.

## Media of Exchange

Trade was facilitated by the general use of specified media of exchange, at least by Postclassic times. The most common and lowest-value exchange media were cacao beans, which may have served as "small change" or to even out unequal values in barter exchanges in market-places. While the actual value of cacao beans in pre-Hispanic times is unknown (and probably fluctuated in any event), colonial values may well be fairly representative: two hundred cacao beans for a turkey cock, one hundred cacao beans for a turkey hen, thirty cacao beans for a small rabbit, three cacao beans for a turkey egg, one cacao bean for a large tomato or a tamale. While rela-

tively low in value, cacao beans were sufficiently valued to have been actively counterfeited.

Large plain cotton cloaks were another common form of money that were higher in value than cacao beans; depending on the quality of the beans and cloaks, values ranged from sixty to three hundred cacao beans for one cloak. Cloaks also served a variety of exchange functions: They could be used to ransom certain slaves, to obtain land, and to gain restitution for theft. A basic standard of living (probably for a commoner) was also expressed in terms of these cloaks, twenty of which could support an individual for one year. These cloaks therefore also served as a standard of value in the economic system.

Other recorded media of exchange were feather quills filled with gold dust in central Mexico, and copper bells, stone beads, and thin copper axes in the more southern reaches of Mesoamerica. Information on all of these forms of money applies to the highly commercialized Postclassic times; it is not clear how extensive such media of exchange may have been in earlier periods. Cacao beans continued as a medium of exchange well into Spanish colonial times, although the other money forms quickly faded away. Spanish coin was used side-by-side with cacao, gradually replacing it.

### International Trading Centers

Another significant trading venue was the international trading center. Typically located beyond or at the periphery of major city-states, these centers attracted long-distance professional merchants from great distances. Here, the merchants would find a considerable diversity of trade goods and could carry on a high volume of high-value trade relatively unencumbered by political conditions. While they may have developed early in the prehistory of Mesoamerica, they became particularly significant during the commercialized Postclassic period. Such centers were found throughout Mesoamerica, in highland as well as lowland regions. Wherever their specific locale, they typically were strategically situated between major polities or significant environmental zones, and were located along convenient trade routes—

Meine Herren, vergessen Sie nicht das Unbewusste ist auch drausen [Gentlemen, do not forget that the unconscious is also on the outside]. • C. G. Jung (1875 - 1961)

overland, riverine, or coastal. While on the surface it appears that these trading centers were specialized venues for high-level economic dealings of professional merchants, they were also hotbeds for more regional and locally based trading activities.

### **Professional Merchants as** Private Entrepreneurs

Professional merchants undoubtedly enjoyed a long history in Mesoamerica. They are not specifically documented prior to the Postclassic; however, as early as the Formative period, elite goods such as shells and fine stones traveled long distances. While this trade may have operated by goods passing from hand to hand until they reached their ultimate destinations, their status-linked nature suggests a more centralized, even politically controlled and generated, method of trade. The Classic period witnessed a continuation of long-distance trade in luxuries destined for the elite (again, probably conducted by professional merchants or by the elites themselves) and also saw a growth in exchange of more broadly consumed goods, such as ceramics for cooking, storing, and eating; ground stone for grinding implements; and obsidian for tools and weapons. During the Postclassic, professional merchants attained unprecedented levels of wealth and political influence. In the Basin of Mexico during Aztec times, professional merchants were organized throughout the major cities into their own city wards, or calpulli. Resembling guilds, calpulli retained exclusive membership rights, a system of internal ranking, a set of specific laws and codes, the ability to manage their own trading ventures and the wealth derived from them, and an advantageous relationship with the state. Professional merchants served the state by carrying state goods on their trading expeditions; they took them as diplomatic gifts to unconquered rulers or used them in profitable exchange negotiations for the state. As mentioned earlier, some of these professional merchants also served the state as spies in their far-ranging travels. As private entrepreneurs they became wealthy beyond their social standing; as state agents they were esteemed by their rulers but often despised in outlying regions.

Indeed, a major motivation for Aztec conquests was the relatively frequent assault and murder of their professional merchants.

### The Significance of Mesoamerican Trade

Throughout the history of pre-Hispanic Mesoamerica, trade served a number of important functions. It provided a context for evening out ecological and seasonal variations, allowing for households throughout Mesoamerica to obtain a wide variety of necessary or desired goods from distant regions as well as from the local area. Trade was an adjunct to specialization, whereby a specialized producer could be assured of exchange outlets for obtaining other essential commodities. Far-flung trading networks provided exotic and expensive goods to elites throughout Mesoamerica in their efforts to visually enhance their high status. And, in an important general sense, trade served to integrate broad regions in relatively sustained and predictable exchanges of goods, information, and social relations.

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See also Trading Patterns, Ancient American

## **Further Reading**

Anderson, A. J. O., Berdan, F., & Lockhart, J. (1976), Beyond the codices: The Nahua view of colonial Mexico. Berkeley and Los Angeles: University of California Press.

Andrews, A. P. (1983). Maya salt production and trade. Tucson: University of Arizona Press.

Berdan, F. (1982). The Aztecs of central Mexico: An imperial society. Belmont, CA: Wadsworth.

Blanton, R. E., & Feinman, G. M. (1984). The Mesoamerican world system. American Anthropologist, 86, 673-682.

Brumfiel, E. M., & Earle, T. K. (Eds.). (1987). Specialization, exchange, and complex societies. Cambridge, UK: Cambridge University Press.

Columbus, F. (1959). The life of the Admiral Christopher Columbus by his son Ferdinand (B. Keen, Trans.). New Brunswick, NJ: Rutgers University Press.

Hirth, K. G. (1978). Interregional trade and the formation of prehistoric gateway communities. American Antiquity, 43(1), 34-45.

Hirth, K. G. (Ed.). (1984). Trade and exchange in early Mesoamerica. Albuquerque: University of New Mexico Press.

Hodge, M. G., & Smith, M. E. (Eds.). (1994). Economies and polities in the Aztec realm. Albany, NY: Institute for Mesoamerican Studies, SUNY, Albany.

Lee, T. A., & Navarrete, C. (Eds.). (1978). Mesoamerican communication routes and cultural contacts (Papers of the New World Archaeological Foundation, No. 40). Provo, UT: New World Archaeological Foundation.

Masson, M. A., & Freidel, D. A. (2002). *Ancient Maya political economies*. Walnut Creek, CA: Altamira Press.

McKillop, H., & Healy, P. (Eds.). (1989). Coastal Maya trade (Trent University Occasional Papers in Anthropology, No. 8). Peterborough, Canada: Trent University.

De Rojas, J. L. (1998). La moneda indígena y sus usos en la Nueva España en el siglo XVI [Indigenous money and its uses in sixteenth-century New Spain]. Mexico City, Mexico: Centro de Investigaciones y Estudios Superiores en Antropología Social.

De Sahagún, B. (1950–1982). Florentine Codex: General history of the things of New Spain (A. J. O. Anderson & C. E. Dibble, Eds. and Trans.). Salt Lake City: University of Utah Press.

Smith, M. E., & Berdan, F. (Eds.). (2003). The postclassic Mesoamerican world. Salt Lake City: University of Utah Press.

## Trading Patterns, Pacific

The Pacific Ocean comprises over one-third of the surface area of the earth, is larger than all earthly land-masses together, and equals all remaining oceans/seas combined. The Pacific is double the size of the Atlantic Ocean and contains more than twice the water.

Given the Pacific Ocean's magnitude, it is unsurprising that observers traditionally conceptualize it as a colossal barrier to interchange, and regard meaningful and lasting trans-Pacific activity as recent (perhaps post-World War II) and unprecedented. Yet such conventional views are false: Crucial trans-Pacific and intra-Pacific interactions have been unfolding since the sixteenth century. Improved navigational technology turned oceans into freeways rather than barriers to interchange. For example, unusually high wages in gold-rush San Francisco prompted its affluent residents to have their laundry done in Canton, China, for a brief time. Control of ports (or at least access to them) has been crucial to Pacific history for centuries.

# Spices and the Arrival of Europeans

Islamic traders were already established in Canton, in Gujurat, India, and in Sumatra by the ninth, tenth, and

thirteenth centuries, respectively. Melaka, Mindanao, and the Moluccas (the Spice Islands) were Islamic sultanates when Portuguese and Spanish ships arrived in the sixteenth century. Moreover, three vast Islamic empires—the Ottomans (Turkey), the Safavids (Persia), and the Mughals (India)—served as connectors between Asian Pacific islands and European marketplaces. Venice was the key marketing power for Asian spices entering the Mediterranean basin prior to the sixteenth century.

The Portuguese sought Asian spices. In 1511 Albuquerque conquered Melaka—a strategic hub connecting trade networks of the South China Sea, the Indian Ocean, and the Spice Islands. From this base, the Portuguese subsequently established entrepôts along the coasts of China (Macao in 1557) and Japan (Nagasaki in 1570). Vast networks of Indian Ocean and Asian Pacific exchange predate the appearance of European powers. While Portuguese ships transported perhaps half of the pepper and spices that Europeans consumed during the first half of the sixteenth century, Arabic, Indian, and Malay merchants continued to play an important role in the Indian Ocean trade, shipping spices through the Red Sea, the Persian Gulf, and other traditional routes into the Mediterranean basin.

Spain's imperial presence in the Pacific followed Ferdinand Magellan's crossing of the Pacific in 1521, in search of an alternative route to the Moluccas. Although only one small Magellan ship (of several) finally returned to Spain, its 500,000 pesos in spices generated a moderate profit overall. Thus, Spaniards knew for certain that huge profits awaited future silver shipments from Mexico to the Philippines. Over four decades of frustration followed, however, because powerful westward trade winds and currents thwarted attempts to sail from the Asian side of the Pacific back to the Americas. Miguel Lopez de Legazpi finally succeeded in 1565 by sailing a northerly route past Japan and then southward down the American coast back to Acapulco, a route subsequently followed by the Manila galleons for 250 years (and followed by ships today in search of fuel economy). Legazpi established Spain's first permanent settlement in the Philippines on the island of Cebu, but abandoned Cebu in favor of Luzon's great natural harbor in Manila Bay in



1571. Embracement of the Chinese junk trade via Manila Bay implied abandonment of the spice trade via Cebu, but the burgeoning silver-for-silk trade generated prodigious mercantile rewards.

Relations between China and the Philippines predate the sixteenth century. Filipino traders had reached Canton by 982 ce. Chinese sources refer to a Philippine maritime raid of a coastal village in Fujian (southern China) in the twelfth century. Filipino ambassadors were received at the emperor Yung-lo's (Chu Ti) court in 1406 bearing "tribute." Commerce thrived as well among the archipelagoes and surrounding Southeast Asian countries (as well as Japan). Like the majority of the Philippines, "Maniland" was already religiously and culturally Islamic by the sixteenth century.

Batavia, on the island of Java, was established as the headquarters of the Dutch East India Company in 1619. From this strategic position in the Sunda Strait, the Dutch displaced the Portuguese and established dominance over the lucrative spice trade.

### Silver and the Origins of Cross-Pacific Linkages

Tectonic forces endowed mountains around the Pacific's edge—its volcanic "Ring of Fire"—with vast holdings of metals. Earthquakes and volcanic activity are characteristics of these mountain ranges, as well as of the islands and archipelagoes of the Pacific. Much economic and social coherence around the Pacific region stems ultimately from geological history, and nothing influenced trade relations around the Pacific Ocean more—from the mid-sixteenth century to the mid-nineteenth century than the production and shipment of metals.

Continuous trade between Asia and the Americas did not exist prior to the founding of the city of Manila in 1571. The sudden eruption of substantial direct exchanges between America and China depended upon two industries: Spanish-American silver and Chinese silks. Manila was the linchpin that connected China and Mexico. From Acapulco, Chinese goods were in turn transshipped to Peru and elsewhere in the Americas (and even on to Spain). The first Filipino and Chinese immigrants arrived in America aboard these galleons.

The Manila Galleons carried an annual average of 2 million pesos (i.e., fifty tons of silver) during the seventeenth century (voyages that continued until the last galleon was captured in 1815 during Mexico's War of Independence). Manila galleons carried as much silver over the Pacific as the combined shipments of the Portuguese Estado da India, the Dutch East India Company, and the English East India Company—major connectors between Asian and European markets.

Merchants of many ethnicities enjoyed high profits: Chinese silks exports rushed toward high silk prices in American markets, while American silver simultaneously rushed toward high silver prices in China. For instance, in 1630 the Portuguese shipped mainly Chinese silks worth 1,500,000 pesos (3,000,000 pesos worth in Mexico), contradicting the common claim that galleon trade declined during the seventeenth century.

Manila's population was diverse: Spaniards of Intramuros (the walled center of Manila) were surrounded by segregated populations of Chinese and Japanese, with groups of free and enslaved blacks living in the city. Jesuits organized sodalities for blacks and the local government expelled five hundred free blacks for vagrancy in 1638. Some Manila galleon slaves were sold upon arrival at Acapulco. Africans were sailors on Portuguese ships navigating between China and Nagasaki; they defended Macao against a Dutch fleet and were active in Goa and other Portuguese settlements.

At the main square in Mexico City, authorities established a "Parian" (Chinese neighborhood) where all kinds of products arriving via the Philippines were sold. Trade between Mexico and Peru reflected the vital Manila trade. When a 1634 prohibition blocked Mexican silks from Peruvian markets, Chinese finished silks rose to 90 percent or more of the value of goods traded between Mexico and Peru. Spanish officials traveling in Central America and Peru in the eighteenth century reported widespread sale of Chinese porcelain in Lima and open sale and usage of Chinese silks everywhere from Chile to Panama.

#### China and the Pacific

China occupied a central role in the Asian and Pacific economy. Large fleets of junks reached Africa and the

No nation was ever ruined by trade. • Benjamin Franklin (1706–1790)

Middle East during the early fifteenth century. Lack of subsequent European-style trade developments, however, has prompted scholars to blame Chinese state interference for China's failure to modernize during the early modern era. Historical facts do not coincide with this conventional hypothesis. The Chinese economy "silverized" during the sixteenth century because its papermoney system collapsed, whereupon silver was adopted by merchants for monetary purposes. Subsequent changes in the taxation system reinforced the central role of silver in the Chinese economy. Importation of silver therefore formed the basis of an immense commercial expansion. Despite a lack of official Chinese sponsorship of foreign commerce along European lines, extremely successful Chinese commercial networks emerged throughout Asia during the early modern period nonetheless.

China was the primary demand-side force operating in the global silver market. Silver poured into China via all maritime and land-based trade routes simply because the white metal's price in China was double that of the rest of the world by the late sixteenth century. On the supply side, tremendously rich concentrations of silver were discovered in Japan, Peru, and Mexico beginning in the 1540s, and technological innovation further reduced mining costs. It was this combination—high silver prices in end-market China and cheap production costs in Japan and the Americas—that led to the greatest global mining boom the world had ever seen. Acting as intermediaries between the Chinese marketplace and Japanese mines, the Portuguese engaged in highly profitable trade until a 1639 shogunal edict expelled them in favor of Dutch intermediaries (confined to Deshima, a minute islet within Nagasaki Bay). Profits from Japanese silver mines financed Japan's unification under the Tokugawa shogunate by 1600; similarly, American silver-mine profits financed resource-poor Spain's emergence as a premier European power. Both phenomena depended upon high silver prices in the Chinese marketplace. But a century of unprecedented silver imports eventually managed to glut even the giant Chinese marketplace; the price of silver fell and equalized throughout the world by 1640, ending a century-long "Japan and Peru Cycle of Silver" that began in the 1540s. Vanishing profits caused a worldwide trade crisis, and effects reverberated globally for centuries.

Aside from carrying vast volumes of silver and silks, the Manila galleons served as a vector through which American crops were introduced into Asia. New plants such as the sweet potato and peanut were particularly significant because they grew in colder, rocky, and hilly environments like those found in sparsely populated areas of China. Large regions to the north and west could now support relatively dense populations for the first time. Han China's population more than doubled during the eighteenth century and China's territorial size doubled as well, leading to drastic restructuring. Expansion of the Chinese economy implied dramatic increase in the domestic demand for silver one more time. As a consequence, the price of silver in China again rose above that of the rest of the world by 1700 (50 percent higher this time). Reminiscent of the 1540s-1640 silver boom, merchants worldwide once again bought silver where it was cheap and transported it to lucrative Chinese markets. American silver again flooded into China, causing China's silver price to sink to the world silver price level by the 1750s. This time, abnormally high silver-trade profits vanished in fifty years (1700–1750) rather than a century (1540s–1640). The bulk of the silver entering China during this 1700–1750 cycle came from Mexican mines. Not only were the Mexican silver mines the richest in world history—prior to the Nevada discoveries in the 1860s—but the Mexican peso in particular dominated all silver-money rivals throughout the Pacific Islands, along the Asian coast, from Siberia to Bombay, and indeed throughout North America as well. In 1785 the U.S. Congress declared the Mexican peso (called the "dollar" in Anglo-Saxon countries) an ideal monetary unit for its new nation.

# Early Integration of the Pacific

Notwithstanding the conquest of Guam (1662) and the Marianas in the last decades of the seventeenth century, the Manila galleons did not break the Pacific Islands' isolation from the continental Rim. Further integration of

the Pacific region occurred between the mid-eighteenth century (end of the Mexican silver cycle) and the midnineteenth century (initiation of the "gold period"), when intensified exploration combined with new commercial opportunities. Although Dampier's voyage contributed Australia to the global map as early as 1669, voyages by Bougainville and Cook a century later added Tahiti, Samoa, eastern Australia, New Zealand, and Hawaii to the list of "new worlds" explored by Europeans. Only after Cook's eighteenth-century explorations were many insular Pacific societies meaningfully linked to the world economy. In 1788 a British fleet established a penal colony in Australia.

Although the impact of American plants like maize, potatoes, peanuts, and cassava (the "Magellan Exchange") on mainland Asian societies was immense, the 450 European ships that crossed the Pacific between 1521 and 1769 generated little ecological impact on many Pacific islands initially. Cook's voyages dramatically accelerated impacts on the islands. The first consequence of the European contact was a demographic catastrophe that involved a 90 to 95 percent population decline on many islands; population numbers stabilized around 1880-1920, and only grew subsequently. Diseases, enslavement, and migration were factors in the decline. Labor migration contributed to the spread of germs around the Pacific. Introduction of new crops and alien species—such as grazing animals, mosquitoes, and rodents—altered island ecologies. Sheep were introduced in Australia and New Zealand for the textile industry. Thanks to the use of quinine (from trees in the Andes) for combating malaria, native or Asian wage laborers were used to develop island plantations that emerged around the Pacific.

Many perceive European voyages and settlements as the main unifying forces around the Pacific, but American and European merchants actually served as middlemen between Chinese markets and Pacific Island ecosystems, which suffered resource depletion on a grand scale. With the exception of whaling, extractive activities were directed to the Chinese market. Sandalwood, sealskins, beche-de-mer (sea cucumber), tortoiseshell, timber, and many other products were exchanged directly and indirectly (via Western manufacturers) for Chinese silks and tea. Sometimes ecological consequences were also indirect, such as when the forests of Fiji were destroyed to provide fuel for drying sea cucumbers for export. Nineteenth-century Hawaiian kings ordered forests torched in order to detect the distinct aroma of burning sandalwood, a product exported mainly to China. All kinds of special products from the Pacific entered the Chinese marketplace directly; or Pacific products could be sold elsewhere in exchange for silver (since China was still the world's largest market for the white metal). Societies isolated for millennia were suddenly linked to world markets with millions of people demanding products from their fragile ecosystems. Scarcity of previously gathered Pacific products after 1850 reduced focus on the Chinese marketplace. American colonists had imported Chinese products since 1700, and merchants from America's East Coast arrived in Canton after the American Revolution. American, British, and Russian seal hunters scoured the America's Pacific coast between 1780 and 1850 in response to demand for furs destined mainly for Chinese, Russian, and European markets. Indeed, the northward spread of Spanish missions up California's coast was a response to southward expansions by non-Spanish fur traders, especially Russians. And by 1800 American whalers and seal hunters were active along the coasts of South America and Antarctica.

#### The Gold Period

The Pacific's "gold period" began in 1848 with the California gold rush and corresponded with expansion of the U.S., British, Dutch, and French influence on the Asian mainland. Railroad expansion connected interior regions with continental ports, while steamship technologies revolutionized intercontinental commerce. European steamships and powerful new guns were decisive in overthrowing the status quo in Asia. Commodore Perry imposed a commercial treaty on Japan's isolationist Tokugawa regime in 1854 and within a few decades Japan industrialized. Victories over China in 1894–1895, then Russia in 1904–1905 demonstrated Japan's emergence as an economic power, although Southeast Asia was virtually under the colonial rule of the British, Dutch, and French by 1900.

The Battle of Plassey, India, in 1757 altered Asian trade patterns in that the British gained control of Bengal's opium production. Although silver continued as China's principal import, British opium exports to China dominated in terms of profitability. Chinese opium imports rose more than twentyfold between 1729 and 1800. The Chinese emperor Qianlong (Hung-li, Ch'ienlung) restricted European merchants to the port of Guangzhou (Canton) in 1759, where foreigners were allowed to deal only with Chinese firms (co hongs) under strict governmental regulation. Chinese exports of silks, porcelain, and tea required import-payment via silver or opium (since there was Chinese demand for little else). Silks were produced elsewhere by this time, and Germany (1709) and Britain (1742) finally mastered production of porcelain. Tea was produced in quantity exclusively in China, however, until the Dutch (Java) and British (Ceylon and India) developed successful tea plantations at the end of the nineteenth century.

Trade in opium was illegal in China. When Chinese authorities tried to stop it, Opium Wars with Britain (1839–1842), Britain and France (1856–1858), France (1884–1885), and Japan (1894–1895) resulted. The Treaty of Nanjing (1842) began a series of unequal treaties that regulated Chinese foreign relations until 1943. China's tributary system was dismantled, Hong Kong was placed under British sovereignty, Chinese ports were opened to commerce, and the opium trade became legal. Britain's trade surpluses with India contributed to Britain's economic strength and to the growth of the Atlantic economy. The British monetary system was based on gold for the major part of the nineteenth century and during some decades of the twentieth. The gold mines of Australia discovered in 1851, the ones in New Zealand in 1861, and exports from India to China provided substantial support for the pivotal role of the City of London in the world financial system.

British activities along coastal China during the first half of the nineteenth century correspond with American expansion in the Pacific beginning with the California gold rush (1848). California became a state in 1850, Oregon in 1859, and Alaska was purchased from Russia in 1867. In 1898, Hawaii was annexed and the Philippines were acquired following defeat of Spain. European powers soon divided China into spheres of influence. In response, United States formulated an Open Door Policy in 1900, which required open trade, territorial integrity, and independence for China. Competition for the Chinese marketplace remained central under such proclamations.

### **Implications**

While a "Spanish Lake" between the mid-sixteenth and mid-eighteenth centuries, the world's greatest ocean was exploited with remarkable success by Iberians (as well as Dutch, Chinese, and other merchants) who controlled key ports providing access to major market areas. From the mid-eighteenth through much of the nineteenth century, numerous nations vied for control of sections of the Pacific. Gold rushes stimulated commercial connections from the mid-nineteenth century. Industrialization narrowed the range of contenders for Pacific supremacy. The Pacific became an "American Lake" after World War II, and American commerce and power remains a dominant force in the Pacific today. It is useful to view the rise of Asian economic powers during the second half of the twentieth century as a reemergence of a centuries-old pattern of response to forces largely emanating from the mainland Asia.

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See also Pacific, Settlement of

## Further Reading

Campbell, I. C. (1989). A history of the Pacific Islands. Christchurch, New Zealand: Canterbury University Press.

Dudden, A. (1992). The American Pacific: From the early China trade to the present. New York: Oxford University Press.

Flynn, D. O., Frost, L., & Latham, A. J. H. (Eds.). (1999). Pacific centuries: Pacific and Pacific Rim history since the sixteenth century. London: Routledge.

Flynn, D. O., & Giráldez, A. (Eds.). (2001). European entry into the Pacific: Spain and the Acapulco-Manila galleons. Aldershot, UK: Ashgate.







Flynn, D. O., Giráldez, A., & Sobredo, J. (Eds.). (2002). Studies in Pacific history. Economics, politics, and migration. Aldershot, UK: Ashgate. Hsu, I. (1983). The rise of modern China (3rd ed.). New York: Oxford University Press.

Latham, A. J. H., & Kawakatsu, H. (Eds.). (1994). The evolving structure of the East Asian economic system since 1700: A comparative analysis. Milan, Italy: Universita Bocconi.

Latham, A. J. H., & Kawakatsu, H. (Eds.). (1994). Japanese industrialisation and the Asian economy. London: Routledge.

Legarda, B. J. (1999). After the galleons: Foreign trade, economic change, and entrepreneurship in the nineteenth century Philippines. Manila, Philippines: Ateneo de Manila University Press.

Miller, S. M., Latham, A. J. H., and Flynn, D. O. (Eds.). (1998). Studies in the economic history of the Pacific. London: Routledge.

Spate, O. H. K. (1979-1988). The Pacific since Magellan. Minneapolis: University of Minnesota Press.

Tarling, N. (Ed.). (1992). Cambridge history of Southeast Asia (Vols. 1-2). Cambridge, UK: Cambridge University Press.

von Glahn, R. (1996). Fountain of fortune: Money and monetary policy in China, 1000-1700. Berkeley: University of California Press.

# Trading Patterns, Trans-Saharan

7rom about 800 to 1900 the Sahara served as one of  $m{\Gamma}$  the major highways of international trade. For the first seven hundred years of this era, Saharan camel caravans provided the only links between the world economy and major sources of gold and slaves in West and Central Africa. Even after European navigation to the Atlantic coast of Africa broke this monopoly, trans-Saharan trade continued to flourish and even increase, although its global significance shrank. Only in the twentieth century, when colonial railways and roads diverted almost all export commerce to the ocean, did the Saharan trade fall back into its earliest form as a purely local affair.

## Early Saharan Trade

At some 5 million square kilometers, the Sahara forms the largest hot-weather desert in the world. It is, nevertheless, not an entirely barren place and held economic attractions very early on for communities in the more populated regions of Africa that surround it—the Mediterranean coast to the north, the Nile Valley to the east, and the western and central Sudanic grasslands to the south. (Note that for the purposes of this article Sudan refers to these zones rather than to the eastern and Nilotic region containing the present-day nation of Sudan.) However, the ancient trade in Saharan salt, copper, dates, and some slaves functioned only over short trajectories in and out of the desert, never across its entire north-south expanse. The major barrier was technological: Horses, oxen, and donkeys, to say nothing of human porters, could not move efficiently across the great distances between oases, the only sources of water within the Sahara.

When camels were introduced into Egypt and North Africa around the first century BCE, the technological problem of desert transport was solved. Camels can travel for as many as ten days without water while also carrying heavy loads of trade goods as well as provisions for the other members of a Saharan caravan—people and often horses (a major import into the Sudan). Political and cultural problems, however, delayed for many centuries the utilization of this new transport system for regular trans-Saharan trade. When the Berber peoples of the northern Sahara first took up camels, they became more difficult for the Roman colonizers of the Mediterranean coast to control and thus made desert trade between Rome and the African interior more difficult. In the ensuing centuries Roman rule also suffered from internal revolts, invasions by Germanic Vandal trades from Spain, conquest by the Byzantine empire, and finally, in the seventh century, conquest by Arab armies carrying the banner of Islam. The Arabs were themselves a camel-using desert people, and under their regime the Sahara finally became a route rather than an obstacle to international commerce.

#### True Trans-Saharan Trade

Even with Islamic rule in North Africa, trans-Saharan trade began somewhat precariously as the enterprise of a dissident Muslim sect, the Ibadis, who exiled themselves to the northern edge of the desert in the ninth and tenth centuries. For more orthodox Sunnis, commerce in the lands of pagan black Africans (*Sudan* is the Arabic word for "black") was not entirely acceptable. This situation changed in the eleventh century when, under the impetus of the desert-based Almoravid empire, the Berbers of the western Sahara converted to very strict Sunni Islam and the rulers of adjoining Sudanic states such as medieval Ghana also become Muslims. Indeed, the Sahara then became not only a commercial highway but also a route of Islamic pilgrimage and advanced religious education for devout Sudanis.

#### GOLD

Along with horses, the goods taken by caravans into western and central Sudan included such items as cloth, glassware, weapons, ceramic and metal housewares, paper, and books. As exports, these cargoes played little role in the international economy, since they were similar to commodities already circulating within the Mediterranean and the volume of items traded was not large enough to make much impact upon Mediterranean commerce or its production base. It was, however, highly significant that for such a low barter price (but at high risk for those who actually crossed the desert) the Mediterranean world could obtain what were then considered quite large amounts of gold (a little more than one ton per annum). Gold not only had value in the Muslim and Christian Mediterranean lands for coinage, jewelry, and storing wealth, but it was also needed to purchase luxury goods from India, Southeast Asia, and China, regions that had little interest in Middle Eastern or European exports.

Gold crossed the Sahara by western caravan routes whose southern termini were towns located in present-day Mauritania or along the northern bend of the Niger river. The actual sources of gold lay considerably to the south of these desert-edge entrepôts around the Senegal river, the southwestern Niger Valley, and the Volta River basin. Camel caravans could not travel into such climates, and Sudanic rulers even discouraged their exploration by North Africans, claiming that the inhabitants were exotic and dangerous savages. In reality there were few cultural differences between the gold-bearing zones and those just south of the Sahara. However, commerce between them

became the monopoly of Sudanic merchants who themselves became Muslims.

#### SLAVES

The other major trans-Saharan export of this era, slaves, came mainly from central rather than western Sudan. The Islamic Middle East and adjoining Christian societies had a great need for slaves to perform household chores, carry out agricultural labor (although never on a scale comparable to European New World plantations), and to serve as military forces. Immediately after the Arab conquest of North Africa many Berbers were forced into slavery, and later a brisk trade in captives supplied the Mediterranean from the Caucasus, Eastern Europe, and Central Asia. However, sub-Saharan Africa soon became the largest supplier of such human commodities, not only on trans-Saharan routes but also along the Nile Valley and via the coasts of the Red Sea and Indian Ocean.

The total number of slaves who crossed the Sahara between 800 and 1900 is about 4 million. When the numbers transported to Islamic lands by other routes is added, the total comes close to the 11 to 12 million estimated for the Atlantic slave trade, mainly between 1650 and 1850. However, the Muslim trade was not only spread out over a much longer period, it also brought Africans into situations where they were much less segregated from the indigenous population. Almost all African slaves in the Muslim world converted to Islam, and very frequently they were assimilated into local society through either manumission or intermarriage. Descendants of black slaves form a large portion of the present-day North African population and are much less marked than in the New World as a separate social, cultural, or racial group.

#### Caravans

The caravans that brought slaves and trade goods across the desert, especially from north to south, were often very large, amounting to as many as five thousand camels and hundreds of people. They traveled mainly during the cooler seasons of the year, from October to March, and even then moved mainly at night to avoid the intense Saharan heat. Caravans usually assembled at entrepôt

towns of the northern Sahara such as Sijilmasa in Morocco, Ouargla in Algeria, or Murzuq in Libya. The journey to Sudanic end points such as Timbuktu (Tombouctou) or Kano took as many as seventy days, traveling at a speed of 24 to 40 kilometers per day. Over the many centuries of the caravan trade, few if any technical improvements were made in this transport system, which was better adapted to conditions in the desert than the wheeled vehicles and instrument-aided navigation that changed land and sea transport in other regions during this time. Nonetheless, movement across such lengthy desert stretches always remained dangerous due to the uncontrollable menaces of sandstorms, attacks by brigands, and the possibility that oasis wells might have dried up or been poisoned since the last visit.

A major trans-Saharan caravan was not a single business enterprise but rather a temporary association of several North African merchants under the leadership of a paid guide. Although the camels were technically owned by the merchants, in effect they were rented from desert communities, which also supplied the skilled labor to care for them. On arrival in the Sudan, the camels would be sold. When the time came for a return journey a new, usually much smaller, number of beasts was purchased.

Despite their limited scale and lack of control over their main transport capital, trans-Saharan merchants did make use of quite sophisticated commercial instruments. Thus much of their business was carried on by means of credit, recorded in written documents that accompanied caravans in lieu of currency or any goods that could not to be sold in local markets. As religious learning became more widespread in the Sahara and Sudan, merchants could also extend their range of partnerships beyond individuals with whom they had close personal ties, confident that agreements would be guaranteed by appeal to the extensive commercial stipulations of Islamic law.

### The Impact of Atlantic Trade Routes on Trans-Saharan Trade

The European voyages of discovery of the fifteenth and sixteenth centuries opened up a new system of maritime traffic between Europe, Asia, and the Americas that reduced the global significance of all the world's longdistance caravan transport, including the Saharan routes. However, from the perspective of northern and Sudanic Africa, new markets on the Atlantic coast and a general expansion of international trade provided opportunities for economic growth. It is easy to understand why Sudanic societies and the neighboring gold-bearing regions would benefit from sending some of their exports south, but not so obvious why such commerce should also continue across the desert, given the far greater efficiency of water over land transport in this preindustrial era. The answer lies in the natural protection afforded by the forest zone separating the Sudan from the Atlantic. Travel across that landscape was even more costly than travel in the Sahara, since pack or draft animals could not withstand the disease ecology there and trade goods thus required human portage.

One of the first commodities that Europeans sought on the West African coast was gold. By the fifteenth century the most productive source of this metal within the region did lie near the ocean, in present-day Ghana, which thus acquired its colonial name of "Gold Coast." Europeans managed to divert much of the gold trade away from the Sahara, provoking the sultan of Morocco to launch an invasion of the Sahara and, in 1591, to take over the Timbuktu (Tombouctou) entrepôt. The Moroccan effort and the still-expanding Sudanic merchant networks within the forest zone assured some continuation of trans-Saharan gold trade. However, by the 1800s this commerce had become much reduced and irregular, often constituting no more than a few feather quills filled with gold dust, carried as supplements to other commodities.

In any case, the large amounts of bullion exported from the New World from the sixteenth century onward ended the major role of West African gold in the world economy. For Europeans, the most important export from this region was slaves, who were shipped from the entire Atlantic coast of the continent in huge numbers. However, the demand for labor and military manpower in the Islamic world also increased during the centuries after 1600. Even in its last three hundred years the trans-Saharan slave trade is not nearly as well documented as its Atlantic counterpart, but as far as we can tell, it increased despite the competition. This complementarity may be explained by the general growth of African populations due to the nutritional impact of New Word crops such as maize, cassava, and peanuts. Also, in contrast to the New World slave trade, which generally imported two males for every female slave, Islamic markets for slave labor somewhat favored women over men. European efforts to end the trans-Saharan slave trade provide us with some of our best information on its extent, but they did not become effective until shortly before 1900.

#### Trans-Saharan Trade: Innovation and Termination

During its last important era (c. 1700–1900), the trans-Saharan trade came to include large quantities of items that had previously formed only a very small percentage of caravan cargoes, such as the hides and skins of goats and cattle, ivory, and, for a brief but very flourishing period in the latter 1800s, ostrich feathers. During this time cities in the western and central Sudan developed their own handicraft industries, which provided Saharan populations with their characteristic blue cotton garments and also produced tanned "Moroccan" leather for export overseas.

This final flowering of trans-Saharan commerce depended upon increased world demand for various consumer goods and the intermediate commodities used in producing them (such as gum arabic, obtained from several species of acacia trees native to the Sudanic region and used in finishing cloth). The driving force of this expanding market was the industrializing economy of Europe and North America. Once Europeans, for reasons having little or nothing to do with trans-Saharan trade, took formal colonial possession of western and west central African territories, new industrial technologies broke through the forest barrier that had protected desert routes. Railways and later roads now provided the Sudan with direct access to the Atlantic. Despite occasional French fantasies, no rail or road arteries were ever built across the Sahara, where camel caravans still carry salt from desert quarries to the lands of the south.

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#### **Further Reading**

Abun-Nasr, J. M. (1975). A history of the Maghrib (2nd ed). Cambridge, UK: Cambridge University Press.

Ajayi, J. F. A., & Crowder, M. (Eds.). (1972–1976). History of West Africa. New York: Columbia University Press.

Austen, R. (1987). African economic history: Internal development and external dependency. London: James Currey.

Austen, R. (2005). The trans-Saharan world: Africa's great desert as a highway of commerce and civilization in the era of Islam, 650–1900. New York: Oxford University Press.

Bovill, E. W. (1968). *The golden trade of the Moors* (2nd ed). London: Oxford University Press.

Brett, M., & Fentress, E. (1996). *The Berbers*. Oxford, UK: Blackwell. De Villiers, M., & Hirtle, S. (2002). *Sahara: A natural history*. New York: Walker & Company.

Hunwick, J. O., & Powell, E. T. (2002). The African diaspora in the Mediterranean lands of Islam. Princeton, NJ: Markus Wiener Publishers.

Levtzion, N., & Hopkins, J. F. P. (2000). Corpus of early Arabic sources for West African history. Princeton, NJ: Markus Wiener Publishers.

Savage, E. (1997). A gateway to hell, a gateway to paradise: The North African response to the Arab conquest. Princeton, NJ: Darwin Press.

Savage, E. (Ed.). (1992). The human commodity: Perspectives on the trans-Saharan slave trade. London: Cass.

### Transportation— Overview

A cross the millennia of recorded history, changing modes of transportation allowed wanderers, traders and missionaries to carry themselves and innumerable different ideas and things across the face of the earth, moving ever further, faster and more frequently. As transport expanded in range and carrying capacity, it accelerated historical change by bringing new ideas, new skills, and new goods to new places, and tightening the human web of communication that existed from the time language emerged and bands of fully human beings began to spread from the African savannas where they first arose.

#### Origins

To begin with, human muscles were the only means of transport our ancestors knew. By walking erect and relying solely on leg muscles for locomotion, they freed hands and arms for carrying babies and all sorts of

One day the war will be over. And I hope that the people that use this bridge in years to come will remember how it was built and who built it. Not a gang of slaves, but soldiers, British soldiers, even in captivity. • SIR ALEC GUINESS AS Colonel Nicholson in The Bridge on the River Kwai

other things. Eventually, human carrying capacity was much enlarged by using pouches tied to the waist, and by carrying heavier objects in slings stretched across the shoulders, using backpacks, and balancing jars on top of the head. But no one knows when or how these adjuncts to unaided human muscles originated or how they spread. Nonetheless these simple forms of transport continue to exist. Women carrying jars of water on their heads can still be seen in places where pipes do not bring it into their homes, for example. And children carry books to school in backpacks in most modem cities.

A superior cooling system makes human bodies unusually efficient load carriers thanks to our sweat glands. As it evaporates, sweat dissipates body heat far faster than panting does, thus sustaining prolonged muscular effort even under a tropical sun. Vigorous persons can walk up to twenty miles a day even with loads of twenty to thirty pounds. Accordingly, for hundreds of thousands of years, foragers moved about in small bands, carrying everything they needed with them day after day. On festival occasions they met and danced with neighbors and sometimes encountered wandering strangers. Such contacts allowed exchange of rare and precious objects, like razor-sharp obsidian blades, across hundreds of miles. Superior tools and weapons, such as the bow and arrow, also spread very widely by the same sort of occasional contacts and collisions among small wandering bands.

As our ancestors spread across the earth some bands left tropical warmth behind and had to learn to live in diverse climates. This too provoked invention—clothes for example. But as far as transport was concerned, the really important advance was learning to move across water. Sitting astride a floating log was perhaps the first sort of flotation. But when, where, and how human beings first learned to make and use burden-bearing rafts and boats is unknown. We do know that people got to Australia sometime between 60,000 and 40,000 years ago, and can only have done so by crossing about sixty miles of open sea. This required rafts or boats of some sort: and therefore counts as the dawn of human seafaring, even though contact with the Asian mainland was not subsequently maintained.

#### Movement Through Water

Fishing at sea from rafts and boats was of lasting importance and probably first flourished on the monsoon seas of Southeast Asia. Monsoon winds blow equably for nearly all of the year, reversing their direction each spring and autumn. That made sailing safer and easier than on stormier seas. Fishermen, of course, had to be able to get back to shore with their catch, preferably arriving at the harbor or beach they had departed from to rejoin women and children left behind. In other words, they had to be able to steer and move across or even against the wind and sea or river currents. Various combinations of keel, paddles, oars, and sails eventually made that possible, but all details are unknown.

Yet it is obvious that when controlled movement through water had been mastered, long journeys also became feasible up and down rivers, and by sailing within sight of land, hauling boats or rafts ashore when needing to rest. As a result, navigation by sea and along suitably slow rivers began to match and more than match overland transport, since rafts, dugout canoes and small boats (sometimes made of animal skins stretched on a wooden frame) carried larger loads longer distances with far less muscular effort than moving cross-country required. But for a long time stormy coasts where high tides prevailed were too dangerous for such navigation. Accordingly, to begin with travel and fishing at sea flourished principally along monsoon coasts of the Indian Ocean, the southwest Pacific Ocean, and the numerous Southeast Asian islands in between.

#### **Domesticated Animals** as Transport

Starting about 11,000 years ago, in several different parts of the earth, people settled down and began to live in agricultural villages. Producing the food they ate by prolonged muscular effort allowed human populations to become far denser than before. They also needed more transport. After all, foragers moved themselves to where their food grew naturally; while farmers had to carry enough food for a whole year (plus seed for the next season) from where it grew to a safe place for storage near

A bus station in central Sao Paulo, Brazil. The city's sudden and rapid growth in the second half of the twentieth century means it is plagued by poor infrastructure. The city's highways are clogged with cars and its metro is relatively small for a metropolitan area of over 20 million people. The city has recently announced plans to construct a system of busways throughout the region to improve public transportation.



their dwelling places. In addition, more and heavier things were worth having when people remained in the same place year round; and some of them—roof timbers, for example—often had to come from afar.

Enhanced need for transport was met when many (not all) food producers began to use the strength of domesticated animals to carry loads. Early farmers in western Asia were particularly lucky in having within their reach a variety of domesticable animals that were useful for transport: cattle, donkeys, horses, mules and camels, Water buffalo in India and Southeast Asia, yaks in Tibet, llamas and alpacas in Peru, and reindeer in the Arctic north were also locally important as beasts of burden, but fell far short of the capabilities of the animals of western Asia. Accordingly, they eventually spread very widely among other peoples, wherever climate allowed and sufficient fodder could be found.

Donkeys were easiest to manage. By 4500 BCE or before, caravans of donkeys began to traverse western Asia carrying specially valued goods on their backs for hundreds of miles. In the land of Sumer near the shore of the Persian Gulf this overland transport system intersected with rafts and boats moving along the Tigris and Euphrates rivers, and with the long-range coastal shipping of the Indian Ocean. By about 3500 BCE the mingling of peoples, skill and knowledge that this far-ranging

transport network created led to the rise of the world's first cities and of what we call civilization.

Later on, horses and especially mules tended to displace donkey caravans in western Asia since they could carry larger loads. Elsewhere, other transport networks sometimes relying solely on human portage, as in Mexico —allowed other cities and civilizations to arise. They signalized a fundamental departure from older and simpler forms of human society. Being places where strangers perpetually came and went, and where rules of kinship and local custom could not cope with important everyday encounters, cities, and then states that embraced a plurality of cities, needed new kinds of authority and subordination to function smoothly. In particular, managing long-distance exchanges, safeguarding new forms of wealth, and keeping invisible spirits and gods friendly demanded special attention. To meet these needs, a few privileged city dwellers ceased to raise the food they consumed, finding ways to induce or compel farmers round about to hand over part of the harvest to them.

In Sumer and in most (but not all) other early civilizations, priests claiming to know how to please the gods by conducting sumptuous temple rituals were the earliest managers of urban society. Beginning about 3000 BCE, military leaders began to rival them since gathering and defending new forms of wealth required ever-greater

effort. Everywhere priests and warriors sooner or later came together and jointly supervised a transport system that brought large quantities of food and fiber into city storehouses, and used what they collected from the countryside to maintain themselves and to feed specialized artisans who manufactured a multiplicity of objects for the use of professional soldiers and for religious rituals. In Sumer, spinning and weaving wool and dispatching bales of cloth on donkey-back to exchange for items needed to keep soldiers, priests and gods happy—metal, timber, lapis lazuli, perfumes and much else-was especially significant since it kept the cities of Sumer in touch with diverse and distant hinterlands.

#### The Wheel

Sumerian rulers thus became the managers of a transport network that brought anything of unusual interest or usefulness to their attention from across many hundreds of miles. Wheels, capable of carrying heavier loads with far less effort than before, were among the items invented somewhere within that network, and duly appeared in Sumer where wheeled toys of clay show up a long time before archaeologists have found any traces of actual carts and wagons. At first, wheels were made of solid wood, fixed to an axle that turned underneath the body of the cart or wagon. About 1800 BCE fixed axles and spoked wheels were invented, concentrating friction in well-greased wheel hubs so that pulling heavy loads became far easier than before.

Spoked wheels and hubs made chariots decisive in war, while carrying large quantities of grain, wool, timber, and other heavy commodities on two- and four-wheeled carts and wagons supplied armies and cities much more easily than before. A pair of oxen hitched to a fourwheeled wagon by their horns could pull thousands of pounds across the dry and level landscapes that prevailed in the land of Sumer. But in hilly and wetter places, carts and wagons long remained of little use because they bogged down in mud and could not cross streams.

Other civilizations constructed other transport systems to supply their cities and sustain states and their rulers. Within the Old World, contact by land among the principal civilizations depended on caravans using one or more of the animals of western Asia. Caravans attained more or less permanent trans-continental linkages after 101 BCE when the Chinese emperor Wu Ti sent an expedition westward to Central Asia looking for a new breed of "blood sweating" horses to use in wars against steppe nomads. He succeeded in his quest, and in subsequent centuries contact across Asia was never broken off for long. Silk, metal, and other precious goods traveling overland between China, India, and western Asia were matched by the spread of ideas, especially the missionary religions, Buddhism, Christianity, and Islam that fitted the human needs of city living. Infectious diseases also spread far and wide along caravan routes, leaving survivors with antibodies in their bloodstreams that were effective against an expanding array of lethal infections.

Caravans had their limitations however, since even a camel, the strongest caravan animal, could only carry about 400 pounds. Making rough terrain suitable for wheeled vehicles in order to carry heavier loads required building smooth, firm roadways, and bridging streams. That required prolonged and costly effort. Nevertheless, the Assyrian empire (935–612 BCE) pioneered largescale road construction. It did so to allow marching soldiers to repel invaders and suppress revolts more quickly. But armies needed supplies from the rear, so merchants used military roads from the start, and long-range carrying capacity by wheeled transport correspondingly increased wherever roads existed.

Later empires, both in China and Europe, also put much effort into building roads. Roman roads are especially well known. They eventually linked the city of Rome with all the provinces except insular Britain, while within Britain local roads linked the productive south with the north, where a garrison defended a wall intended to keep barbarians out. Yet sea commerce across the Mediterranean was far more important for Roman society than anything transported by road. Ships circulated articles of common consumption—grain, wine, salt, cloth, pottery, and much else—among the coastal cities. The Roman roads fed that sea commerce by extending its reach inland, and also linked up along the



northern border with river shipping on the Rhine and Danube Rivers and with the Nile in the south.

Roads in the Chinese empire were less important than those of Rome largely because a network of rivers and canals assured the Chinese government of capacious and cheap internal transport. Empire (935–612 BCE) canals in the Yellow River and Yangtse basins were initially built for irrigation purposes; but once in place the government could collect taxes in kind from farmers many hundreds of miles from the capital, carrying everything in barges. Sometimes barges simply drifted or sailed down stream, and sometimes gangs of porters had to haul them upstream, pulling on ropes from the banks. That extended navigation far inland; and since such barges carried large quantities long distances very cheaply, they knitted the most densely inhabited regions of China into a single whole much more tightly than anywhere else in the world. China accordingly pioneered the construction of a market economy, lubricated by paper money, that embraced ordinary peasants and common taxpayers, beginning about 1000 CE.

#### **Continental Variations**

Elsewhere in the world, the balance between shipping and overland transport varied with topography, climate, and the array of domesticated animals available. In the Americas it is possible that some early immigrants from Asia came by sea, beginning about 20,000 years ago. At any rate, Native Americans were familiar with canoes and rafts long before Norsemen got to Newfoundland, and canoe navigation along the Amazon, Mississippi and lesser rivers was long established when Europeans showed up on the scene to record the fact. The Hopewell and Mississippian peoples of North America, for example, used materials and a few specially manufactured goods that came from hundreds of miles away. Metallic copper from Lake Superior and tobacco pipes were among the objects they carried up and down the rivers of North America. Overland transport among Amerindians depended on human portage, except in the high Andes of South America where llamas and alpacas supplemented human muscles.

In South America successive empires also constructed an extensive road system in the mountainous terrain of the high Andes that was quite as impressive as that of the Roman empire. Coastal navigation on the Pacific, in which light balsa rafts played a part, also connected Peru with Mexico in a slender and almost unrecorded fashion; while canoes traveled widely among the islands of the Caribbean as well.

Parts of North Africa shared the caravans and shipping of western Asia; but further south, where tsetse flies made it impossible for horses and cattle to survive, human portage remained the primary mode of overland transport until roads and trucks took over in recent times. Native Australians also relied on human portage entirely. Overall, major improvements in transport continued to concentrate in Eurasia and along its fringes where the overwhelming majority of humankind were already linked by an ever-intensifying web of transport and communication.

Within Eurasia, a striking change came to overland transport when domesticated camels became more common after about 200 CE. These animals were hard to breed successfully; but when the arts of camel management spread from South Arabia, and when a somewhat larger, related species, the two-humped Bactrian camel had been domesticated in Central Asia, caravans became far more efficient than before. First of all, camels carried heavier loads than horses and mules. They could also fuel their muscles by grazing on scattered, thorny vegetation in desert landscapes and go for several days without water. Consequently, crossing deserts became possible as never before. All of a sudden, the Sahara in northern Africa became passable; so did deserts in Central and western Asia.

The effect was rather like what happened later when Europeans began sailing across the world's oceans. New peoples and separate civilizations within the Old World, became far more accessible to one another and exchanges of diseases, skills, and ideas attained new range and rapidity. The most conspicuous result of camel transport was the remarkable speed with which the faith of Islam spread from Arabia across western Asia and began

to penetrate India, East Africa, Central Asia and, before long, eastern Europe as well. Initial Muslim victories depended on cohesion sustained by their religious faith, but superior logistical support from camel caravans also contributed mightily.

Using camels for overland haulage was cheaper than maintaining roads for wheeled vehicles, so in the Muslim heartlands of western Asia existing roads were allowed to decay and city layouts changed since narrow passageways sufficed for camels. Wheeled transport continued to exist in fringe areas-Europe, China, India and the steppes. But for centuries cheap overland transport on camelback gave Islamic peoples an advantage, especially after they perfected legal systems that allowed camel caravans to move safely through settled regions.

Obviously, desert foraging at night only worked in uninhabited places. Letting camels loose to feed on growing crops was bad business for farmers and merchants alike. Instead, Muslim governments built caravanseries where men and beasts could stay overnight and allowed charitable landowners to escape taxation by dedicating selected estates to supplying free provender for travelers. In effect, free desert forage was thus ingeniously reproduced in agricultural landscapes, reconciling the needs of traveling merchants and their animals with the interests of peasants and landowners. Free food and shelter along the way meant that out-of-pocket costs for caravan transport became surprisingly slender so camels could compete on some routes with ships using free energy from the wind.

Since Muslims shared advances made in ship design until after about 1300, their combination of cheap transport by land and sea was unmatched elsewhere. Muslim traders accordingly became the most successful in the world, operating along the coasts of China and Mediterranean Europe, while penetrating the Eurasian steppes and much of sub-Saharan Africa.



Yet eventually advances in shipbuilding and navigation made sailing on stormy and tidal waters of the northerly Pacific and Atlantic oceans feasible. Thereupon all-weather ships inaugurated long distance transport networks that eventually carried luxuries and goods of common consumption around the whole earth. Yet it took a long while for all the prerequisites for safe and reliable all-weather shipping to come together. And since wooden boats seldom leave archaeological traces, knowing when and where shipbuilding practices changed is largely guess work.

One breakthrough was the invention of pontoon outriggers to stabilize dugout canoes. These outriggers allowed canoes to carry larger sails and move far



Over the course of world history, boats and ships have been a major form of transportation for humans and their material goods. In this drawing from late nineteenth-century China, two boats with sails make their way on the Yangtze River. faster through rougher seas. Probably as a result, about 500 CE sailors from Borneo crossed the Indian Ocean and settled the island of Madagascar off the East African coast for the first time. Before then, other sailors had moved into the Pacific, and occupied islands as distant as the Solomons. Such lengthy voyages are attested by linguistic affinities between the so-called Malagasy language of Madagascar and languages of Borneo in the East Indies; and by the array of Austronesian languages that range across islands of the Southwest Pacific.

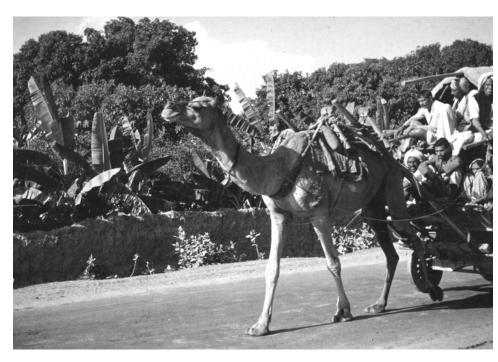
Some centuries later, speakers of Polynesian languages began to cross far greater Pacific distances, reaching Hawaii, Easter Island, New Zealand and some tiny atolls in-between. Exact dates of their arrival are unsure but it seems clear that New Zealand was the last to be settled, perhaps only about 1300 ce. The Polynesian dispersal clearly did depend on sailing canoes equipped with outriggers, and their voyages constitute a surprising accomplishment since finding isolated islands in the immensity of the Pacific was hit and miss. As a result, people on most of the Polynesian islands failed to maintain contact with the outside world until European seamen suddenly intruded on them after 1522.

Austronesian and Polynesian sailing across the southern was matched increasingly successful ventures across the stormy seas of the north. Light boats made of animal skins floated buoyantly even on top of big waves; and a keen eye to the weather allowed sailors using such vessels to come and go short distances more or less safely on the northern reaches of the Pacific, Atlantic and Arctic

Hindu pilgrims in India travel on a two-tier camel bus in Mathura.

Oceans. Inuits, for example, spread around the Arctic shoreline from somewhere in Asia, moving by kayak and dog sled; and learned to harpoon whales from larger skin boats about 800 CE. By that same time, coracles made of cattle skins had carried a few Irish monks to Iceland across the North Atlantic.

But just as navigation across really long ocean distances in the southern seas required outrigger pontoons and larger sails, so the stormy northern seas could only be regularly crossed by building larger ships that cut through the waves rather than riding lightly on top of them. In the North Atlantic, Viking ships of the ninth to eleventh centuries were a halfway step towards safe navigation. Built of overlapping planks nailed to a heavy rib and keel frame, and rendered waterproof by careful caulking, they were propelled either by oars or, when the wind was favorable, by a square sail. They dodged storms by going ashore or taking refuge in harbors along the Atlantic and Mediterranean coastlines of Europe and rowed up and down the rivers of Russia and western Europe as well. Sometimes they went raiding and destroying, sometimes they traded or set themselves up as rulers, and sometimes they pioneered settlements of almost uninhabited landscape as in



The universal brotherhood of man is our most precious possession. • Mark Twain (1835-1910)

Iceland, Greenland, and, for a short while, even in Newfoundland. Viking boats were strongly built to cut through big waves, but since they needed large crews for rowing against the wind, they had limited cargo capacity and their open hulls allowed seawater to splash over the sides, soaking crew and cargo alike.

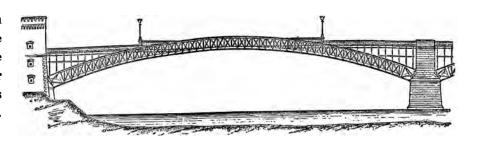
Really satisfactory all-weather ships needed closed decks, and ways to steer and sail upwind and against the tide if necessary. Such ships were eventually constructed in China and in Atlantic Europe, using quite different designs. Chinese ships were flat-bottomed vessels with hulls divided into separate water-tight compartments. Instead of keels, they had center boards that could be raised and lowered through a slit in the bottom, and were steered by stern-post rudders and by using multiple masts and sails. By the fourteenth century, the largest Chinese seagoing vessels were huge, expensive and efficient. Admiral Cheng-ho, for example, led a series of voyages to the Indian Ocean between 1405 and 1433, the first of which comprised sixty-two ships and carried no fewer than 27,800 men.

By that same date, sea-going European ships improved on Viking designs by being decked over, with double planked hulls nailed, inside and out, to a rib and keel skeleton as before. They dispensed with rowing by using multiple masts and sails, some triangular (originating probably in the Indian ocean) for tacking into the wind, some square for sailing before it. Such a combination of masts and sails, together with stern-post rudders (probably coming from China), made it possible to come and go almost at will despite the variable winds and strong tides that beset Europe's Atlantic coastlines. Indeed once sailors were capable of traversing those stormy seas, other oceans of the earth, except the frozen Arctic, were comparatively easy since the reversible monsoons of Asia were matched by trade winds north and south of the equator that blow year round from a single but opposite direction.

Deciphering the pattern of ocean winds and currents was a matter of trial and error over generations, as ships became capable of longer and longer voyages. Arab, Indian, Polynesian, Malay, Chinese, Japanese, European and other seamen all did so within their different, and sometimes overlapping ranges of operation. By 1492 such knowledge had accumulated among seamen so that Columbus, for example, knew exactly how to go south to the Azores, then sail west before the northeast trade winds and return by sailing north to the zone of prevailing westerlies beyond Cape Hatteras. That was why his voyage was so swiftly and regularly repeated, and why European seamen so suddenly began to traverse all the world's oceans within a mere thirty years after 1492.

Methods for measuring latitude north and south by sighting the sun or north star allowed ships to steer accurately towards a known coastline, and increasingly accurate local maps and charts made getting into and out of distant ports much safer. Magnetic compasses, coming from China initially, also allowed ships to maintain a steady direction under clouded skies where sun and stars could not be seen. But until the eighteenth century sailors could not measure east-west longitude. Finding small islands and exact time of arrival on familiar coasts across ocean distances therefore remained hit and miss until marine chronometers, able to keep time for weeks and months on end, made longitude at sea accurately measurable after 1762.

Nonetheless, European capabilities of ocean voyaging transformed human affairs rather quickly long before finding small islands became easy to do. The Chinese government had withdrawn from overseas ventures after 1433 and disbanded its sea-going fleet so as to concentrate its resources instead on guarding China's land frontier against the Mongols. This left European seamen without serious competition on a global scale, since light-built shipping of the southern seas could not endure northern storms. The stout construction of North Atlantic ships also withstood the recoil of newly invented heavy cannon, and this gave European ships another advantage over more lightly built vessels. Cannon-carrying European ships made older ramming and boarding tactics of naval warfare suddenly obsolete since they could sink approaching enemies at a distance, and could even threaten local rulers ashore with punishing bombardment. Wherever such vessels appeared therefore local rulers had to accommodate One of the wrought-iron arches of a bridge over the Rhine at Coblenzin the late 1800s. The bridge is over 300 meters with three spans of about 100 meters each.



them, allowing Europeans to come ashore for trade and sometimes paying them tribute.

Overall effects were especially catastrophic in the Americas and among other previously isolated populations. That was largely because unfamiliar lethal diseases brought by European seamen wreaked havoc on such populations, totally lacking, as they were, in acquired resistances to all the newly arrived infections. Drastic depopulation ensued, allowing newcomers from Europe, together with large numbers of slaves imported from Africa to transform the culture and character of American populations. Similar destruction and replacement took place in Australia, New Zealand and Oceania some centuries later.

The peoples of Eurasia and most of Africa were already disease-experienced, thanks to long-standing transport connections overland and by sea. Nonetheless, Eurasia and Africa were profoundly affected too by the onset of global seafaring. To put it in a nutshell: as coastal contacts became more and more significant for trade, for war and for exchanges of skill and ideas, the Eurasian continent was in effect turned inside out. Previously, China, India and the Muslim heartlands of western Asia had to concentrate attention on their land frontiers. Cavalry tactics, dating back to about 750 BCE, gave steppe nomads superior mobility with the result that adjacent farming populations suffered frequent raids and occasional conquests across the next two millennia. Defending, negotiating, and competing against nomad states and armies was correspondingly critical for farmers of the Eurasian fringe lands. The Chinese government's decision to withdraw from the Indian Ocean in 1433 demonstrated that concern, only to open China to harassment from the sea when Portuguese ships showed up along the South China coast in 1513 and swiftly elbowed their way ashore at Macao by the 1540s.

India, Java and other Southeast Asian lands also allowed Europeans to set up fortified trading forts; and

French, Dutch and English trading companies soon transformed themselves into local rulers. Ensuing armed struggles made the Dutch supreme in Indonesia and the English in India by 1763. Penetration of the Muslim heartlands was slower but after Napoleon's invasion of Egypt in 1798–1799, the Ottoman Empire and other Muslim states found it impossible to keep Europeans from demanding and getting trade and other privileges. East Asians held out until first the Chinese (1839) and then the Japanese (1854) saw their best efforts to keep Europeans at arm's length crumble under the threat of naval guns. Thereafter, efforts to transform old ways and somehow catch up with European power by appropriating at least some European skills and ideas prevailed throughout the non-European world.

By that time, however, European intruders had acquired new advantages by using newly invented steamships and railroads to transcend older limits. Steam engines, fired by burning coal in the 19th century, and oil-burning internal combustion motors in the twentieth century provided far greater energy for transport, carrying greater loads much faster and far more predictably.

For ocean distances, practicable steamships dated from 1819 when a steam-assisted sailing ship first crossed the Atlantic. Rapid development ensued, featuring a sudden increase in size after 1858 (when iron construction replaced wooden hulls), and a subsequent race to speed up Atlantic crossings that reduced them to less than a week by the 1930s.

For river transport, shallow-draft flat-bottomed steamboats with paddle wheels amidships flourished mightily for half a century after 1807, when Robert Fulton made his successful run up the Hudson River. Steamboats, however, suffered eclipse in the United States after the 1860s, since railroads proved faster and more convenient. Nevertheless, they remained of critical importance on African rivers and in parts of Asia where railroads



were not built until roads and trucks supplanted them after about 1930.

#### The Advent of Rail Travel

For overland transport, steam powered railroads followed close behind oceanic steamships. The first commercial steam railroad, 25 miles long, opened in England in 1825; but building longer railroads was costly and took time. Railroads therefore began to come into their own only in the 1860s. The first transcontinental railway opened in 1869 when the Union Pacific Railroad in the United States was completed. Thereafter European investors financed railroad building wherever strategic or commercial advantages suggested. The opening of the Trans-Siberian Railroad in 1903, connecting St. Petersburg on the Baltic with Vladivostok on the Pacific, was the longest railroad ever built and still helps to hold the Russian state together.

In western Europe itself, railroads gave easy access to inland coalfields, accelerating industrial development enormously. Railroads also played a prominent part in European wars as early as 1859, climaxing during World War I (1914–1918) when railroad schedules for mobilization locked initial war plans into place, and subsequently supplied all the war fronts for years on end.

The impact of railroads was especially great in large countries like the United States, Russia, Canada, India and Argentina, binding them together internally more closely than before while also entangling them in worldwide markets. China as always remained different, for old-fashioned barge transport on internal waterways continued to function slowly but cheaply; and for more than a century political instability inhibited large-scale railroad construction.

For the world as a whole, steam ships and railroads together created a far faster and more capacious transport system than before. Millions of persons emigrated from crowded lands in the Old World to settle in the Americas, Australia, New Zealand, and South Africa. Vast quantities of grain and other foods, together with minerals and other raw materials, and innumerable manufactured goods began to circulate throughout the world. Simultaneously, European intruders took advantage of steamboats and railroads to penetrate China and Africa as never before. Japan, however, built its own railroads and steam ships. Everywhere else the new modes of transport were owned or managed by Europeans or persons of European descent until well into the twentieth century.

Until 1945 or so, Europeans retained this privileged position and, by making some accommodation to the United States after 1865, managed world affairs pretty much to suit themselves. Near monopoly of mechanical transport and communication sustained this lop-sided arrangement for a while, but it remained inherently unstable. One instability arose from rivalries among the chief European states, climaxing in two world wars, 1914-1918 and 1939-1945. Just as important was the way the propagation of the new transport (and communication) nets among Asian, African, and American populations allowed local peoples to mobilize their discontents and prepare to assert control over their own societies again. As a result, soon after World War II European colonial empires disintegrated everywhere.

#### New Modes of Transport in the Twentieth Century

More decentralized and flexible forms of overland transport powered by internal combustion motors sustained this political transformation. Cars and trucks first became important for the transport of goods and persons during World War I. Trucks commonly carried loads door to door, diminishing transfer costs. In addition, individuals and small companies could compete with larger fleets of trucks on more or less even terms. Roads still had to be built and maintained by public authorities and remained costly. But roads were considerably cheaper to build than railroads. Hence for hauls of less than three or four hundred miles, the convenience and flexibility of trucking was almost as superior to railroad transport as railroads had been to river steamboats eighty years before.

Almost simultaneously, airplanes began to affect transport. Airplanes took off with the Wright brothers' flights in 1903, but World War II was what made them important for transport, a generation after cars and trucks had



A row of China's most popular means of transport: the bicycle. With roads filled to overflowing with new imported cars, and narrow hutong alleyways to traverse, the people of China depend on their bicycles to get them from here to there.

come of age during World War I. Transcontinental flights were pioneered in the 1930s, but Allied armed forces first made large-scale air transport global between 1941 and 1945. Planes became faster and larger in the following decades and air transport expanded accordingly. By the 1950s, variously subsidized national airlines combined to make tourist and business travel by air normal. Air delivery of mail and important packages displaced older means of transport for long distances; but airplanes seldom carried heavy objects or bulk commodities. Their high speed came at a cost that made air transport a semi-luxury.

All the same, in Arctic lands and some other barren and remote regions, light airplanes became the only way to come and go, while long-distance flights, following great circle routes, crisscrossed the globe, weaving a new pattern that made passage across high northern latitudes important as never before. Another side effect of flight was the establishment of uniform weather reporting, and use of English for air traffic control at airports everywhere—including even the Soviet Union during the Cold War.

Rockets were yet another form of transport emerging from World War II, but their loads remained far more restricted. Explosive warheads were the most threatening, but have never been used in practice. The most significant rocket flights launched various satellites and sensors into orbit around the earth, or, in other cases, escaped earth's gravity to explore the solar system and fringes of the universe beyond. Such sensors have expanded information about the earth, moon, planets and stars enormously since 1957 when the Russians first launched Sputnik into orbit. Americans countered with the feat of sending men to the moon in 1969 and returning them safely. But the future of space travel remains uncertain. Being extremely costly, it will not likely affect everyday life in the way older changes in methods of transport have done throughout the past. But disaster from nuclear warheads delivered by rockets still remains a threat to the future of humankind.

To sum up: Human beings have invented more and more powerful ways of moving themselves and other things across the face of the earth and, more recently, through the air and into outer space. Successive systems of transport defined the range and intensity of contact local populations had with outsiders; and those contacts in turn regulated the frequency with which important new things, skills, and ideas caused people to abandon familiar ways and try something new. Accordingly, as transport and accompanying communication intensified, the pace of social change accelerated, distressing most of the people affected.

This is the awkward state of human society today. But as always the future remains unknowable. We can be sure, nonetheless, that transport will continue to affect how people live, altering everyday experience by bringing novelties from afar for us to accept, reject, or modify just as our predecessors have always had to do.

#### Further Reading

Bellwood, Peter S. (1979). Man's conquest of the Pacific: The prehistory of South East Asia and Oceania. Oxford, UK: Oxford University Press.

Boulnois, L. (1966) *The Silk Road*. Union Lake, MI: Odyssey Publications.

Bulliet, R. W. (1975). The camel and the wheel. New York: Columbia University Press.

Casson, L. (1971). Ships and seamanship in the ancient world. Baltimore: The Johns Hopkins University Press.

Chevalier, R. (1989). Roman roads. London, Christe Y.

Coquery-Vidrovitch, C., & Lovejoy, P. E. (1985). The workers of African trade. Beverley Hills, CA: Sage Publications.

Davis, C. B., & Wilburn, K. E. (Eds.). (1991). Railroad imperialism. New York: Greenwood.

Dyos, H. J., & Aldercroft, D. A. (1969). British transport: An economic survey from the seventeenth century to the twentieth. Leicester, UK: Leicester University Press.

Gamble, C. (1983). *Timewalkers: The prehistory of global colonization*. Cambridge, MA: Harvard University Press.

Hornell, J. (1970). Water transport, origins and early evolution. Newton Abbot, UK: David & Charles.

Jones, G. (1886). The Norse Atlantic saga: Being the Norse voyages of discovery and settlement to Iceland, Greenland and North America. Oxford: Oxford University Press.

McDougall, W. A. (1985). The heavens and the Earth: A political history of the Space Age. Baltimore: Johns Hopkins University Press.

Needham, J. (1962). Science and civilization in China, Vol. IV, Part 4, civil engineering and nautics. Cambridge, UK: Cambridge Publishing.

Stover, J. F. (1961). American railroads. Chicago: University of Chicago Press.

Trombold, C. D. (1991). Ancient road networks and settlement hierarchies in the New World. New York: Cambridge University Press.

Unger, R. (1980). The ship in the medieval economy, 600-1600. London: Croom Helm.

Vance J. E., Jr. (1990). Capturing the horizon: The historical geography of transportation since the transportation revolution of the sixteenth century. Baltimore: Johns Hopkins University Press.

### **Travel Guides**

The travel and tourism industries, analyzed globally, generate billions of dollars annually. The national economies of some countries rely heavily on tourists who visit for either work or recreation. Travel also affects other industries. The financial stability of the transportation system, comprised largely of airplanes, ships, and rail and road networks, is dependent upon travelers' willingness to journey beyond the confines of their home. The hospitality and restaurant industries profit from travelers' business. Modern travel guides, such as *Fodor's, Lonely* 

*Planet, Rough Guide,* and *Routard,* are lucrative for their publishers. New editions of travel books appear annually, focusing on tourist destinations around the globe. These new editions are read by novice and veteran travelers alike, eager to see the newest recommendations of restaurants, lodgings, and sights.

Yet, travel guides have a much longer history. For centuries travelers across the globe have embarked on journeys for a variety of motives. Such motives could include economic gain, spiritual solace, or merely the love of adventure. Travelers have recorded their sights and thoughts for both current and future wayfarers to consult. Thus, travel guides function as extremely valuable sources for studying global history.

# Initial Links between West and East

Since antiquity, trading and cultural connections linked Europe with Africa and Asia. The central Asian conquests of king Alexander of Macedon (d. 323 BCE) linked the lands of Mesopotamia with those of the Mediterranean to the west, and his conquests of Punjab and the Indus River linked the west to the east. After Alexander's death, subsequent Hellenistic (Greek) empires extended Greek cultural traditions to the larger world, integrating the economies and societies of the Mediterranean, Egypt, and central Asia, and permitting the widespread exchange of ideas, values, and faiths.

The rise of the Roman state as the predominant military, political, and economic power of the Italian peninsula during the late fourth century BCE brought a greater imposition of Roman might on Mediterranean affairs. In the Mediterranean basin Rome clashed with other powers, such as Carthage and the Hellenistic empires. By the middle of the second century BCE Rome had defeated Carthage and subjected the Hellenistic empires to domination by Roman allies, ensuring that Rome would be the dominant Mediterranean power.

A brutal civil war (87–83 BCE), widespread urban poverty, and rampant inflation contributed to social ills within the Roman republic and paved the way for Gaius Julius Caesar (d. 44 BCE) to forge the Roman empire. The

victorious conqueror of Gaul, Caesar was extraordinarily popular and in 46 BCE made himself dictator for life. He sought to centralize the military and administration of Rome. When he was assassinated by disenfranchised members of the Roman elite in 44 BCE, his death again plunged Rome into civil war, which abated only with the ascension of the nephew of Caesar, Octavian, later known as "Augustus" (d. 14 CE). For the next two centuries the Roman empire expanded to its greatest extent and integrated the distant lands of central Asia.

#### Greek and Roman Travelers

Because the Roman empire was physically extensive—about 4,800 kilometers from east to west—a system of well-designed and engineered roads and bridges was necessary for its successful administration. The Latin adage *omnes viae Romam ducunt* (all roads lead to Rome) attested to the safe, well-maintained network of roads that could permit a traveler to journey from the farthest regions of the empire to its heart.

Additionally, Rome was a cosmopolitan empire, with more than 50 million inhabitants, all of whom spoke various languages, worshipped many local and imperial deities, and engaged in a plurality of customs. The eastern provinces of the empire, where commerce and civilization flourished long before the Romans appeared, had a historic cultural and cosmopolitan legacy, ensuring its popularity as a travel destination during antiquity.

Greek epic poetry, such as Homer's *The Iliad* and *The Odyssey*, written around 800 BCE, conveyed the sense of excitement, but also danger, of travel. One of the earliest travel narratives is that of the Greek historian Herodotus. In his *Histories*, written around 440 BCE, Herodotus recorded his personal observations of his extensive travels in the Mediterranean basin, visiting places such as Egypt, the Black Sea, Scythia, Mesopotamia, Babylon, Cyrene, north Africa, and Anatolia (in modern Turkey). Ancient Greek writers who probably traveled to India included Ctesias (c. 398 BCE) and Megasthenes (c. 303 BCE).

Natural History (c. 77 CE) by the Roman writer Pliny was another travel account that influenced later Europeans' perspectives concerning the world outside of

Europe. Like Herodotus, Pliny recorded his first-hand observations of his travels in the world around him. However, some parts of his work, such as his discussion on the "monstrous" races of the world outside of Europe, clearly had a basis in myth.

# The World Outside of Europe in the European Consciousness

Although Pliny's account is not generally favorable toward non-Romans, his depiction of monstrous races nonetheless sparked Europeans' imaginations. Moreover, the sight of luxury goods—including Chinese silk, southeast Asian spices, Indian cotton textiles and pearls, and central Asian horses and jade, which traversed the central Asian Silk Road—whetted Europeans' appetite for "exotic" items. The Romans, in turn, offered Asian markets various products, including glassware, jewelry, art, bronze, olive oil, wine, and gold and silver bullion.

Merchants and diplomats who traversed the branches of the Silk Road recorded their observations. For instance, the detailed travel accounts of the diplomatic mission of Zhang Qian (d. 113 BCE), recorded in Sima Qian's *Shiji* (Historical Records, c. 100 BCE), provide extensive information about the peoples and lands of Central Asia, Persia (modern Iran), and northern India. This connection between East and West was not permanent, however. The collapse of the Han dynasty (206 BCE–220 CE), compounded with near-contemporary third-century crises of the Roman empire, disrupted trade along the Silk Road.

# An Early Medieval Pilgrimage Travel Guide—The Codex

Religion also motivated travelers. The pilgrimage was a form of travel in which a person, as a form of devotion or penance, walked from his or her home to a shrine. Located at the shrine were relics—bits of clothes and/or body parts of saints, to whom the travelers could pray for intercession.

One of the most popular pilgrimage routes for medieval Christians led to the shrine of Santiago de Compostela, located in Galicia, the northwestern corner of the

# Traveler's Impressions of the Ainu of Japan

Isabella Bird, an adventurous traveler to Japan in the late 1800s, recorded her impressions of the Ainu in Unbeaten Tracks in Japan:

They have no history, their traditions are scarcely worth the name, they claim descent from a dog, their houses and persons swarm with vermin, they are sunk in the grossest ignorance, they have no letters, or any numbers above a thousand, they are clothed in the bark of trees and the untanned skins of beasts, they worship the bear, the sun, moon, fire, water, and I know not what, they are uncivilisable and altogether irreclaimable savages, yet they are attractive, and in some ways fascinating, and I hope I shall never forget the music of their low sweet voices, the soft light of their mild brown eyes and the wonderful sweetness of their smile.

Source: Bird, I. (1881). Unbeaten tracks in Japan: An account of travels in the interior including visits to the Aborigines of the Yezo and the shrines of Nikko and Ise. London: Murray.

Iberian Peninsula. Surpassed in importance only by Jerusalem and Rome, the cathedral at the end of the 800-kilometer route housed the relics of Saint James, one of the twelve apostles. Pilgrims from all parts of Europe followed the route through the mountainous northern coast of Spain to Galicia. Because of the popularity of the route, the cleric Aimeric Picaud, between 1130 and 1140 CE, edited the *Liber Sancti Jacobi* (The Book of Saint James), also called the "Codex Calixtinus." The fifth book of the Codex was essentially a pilgrim's guide and described to pilgrims the terrain and conditions of the land, pointed out major sights along the route, and warned them of hazards that could waylay the unfortunate pilgrim.

#### Medieval Travelers— Marco Polo and Ibn Battuta

Possibly the most famous travel narrative and guide of the Middle Ages was *The Travels* by the Venetian merchant and diplomat Marco Polo (1254–1324 CE). Also known as the "*Description of the World*," it was a wildly popular

account of his travels and travails. It was massive in its geographic focus, detailing the lands from Japan to Zanzibar. As a youth, Marco Polo had traveled from Venice with his father and uncle, who had made a prior journey to China, to the East to establish a new outlet for European exports. He spent about twenty years living and traveling in the East in the service of the founder of the Mongol dynasty, Khubilai Khan (d. 1294 CE), and traveled to China, Burma (modern Myanmar), India, central Asia, and Byzantium (modern Istanbul, Turkey). He undertook a three-year maritime return journey, returning to Venice in 1295 ce. Captured at the Battle of Curzola on 6 September 1298, Marco Polo was imprisoned in Genoa and there met Rustichello da Pisa, an author of romances, who eventually published Marco Polo's account. However, Rustichello certainly fabricated parts of the text to create a gripping narrative; the presence of bandits, pirates, and wild animals points to the hazards of travel. The luxury and common goods that pepper Polo's story point to the commercial nature, and rewards, of an enterprising journey.

A medieval narrative that can compare with Marco Polo's is the fourteenth-century *rihla* (travel narrative) of the Moroccan Abu 'Abdullah ibn Battuta (d. 1369 CE), A Gift of the Observers Concerning the Curiosities of the Cities and Marvels Encountered in Travels. From 1325 to 1349 ibn Battuta traveled extensively and related his observations and experiences during his hajj (religious pilgrimage to Mecca in Saudi Arabia) and his subsequent travels within the Dar al-Islam, the Islamic world, from north Africa and the Arabian Peninsula to Delhi, Ceylon, Bengal, China, and Mali.

#### Early Modern Travelers

Travel writings did not cease with the "closing of the ecumene"—the arrival of Europeans in the Americas with the first trans-Atlantic voyages of the Genoese sailor Christopher Columbus (1492–1493). Columbus owned a highly glossed account of Marco Polo's travels, attesting to the influence that travel guides had upon exploration. From the fifteenth through the seventeenth century Europeans traversed the globe in increasing numbers,

and with the development of the printing press, the volume of travel narratives exploded. The Englishman Richard Haklyut (d. 1616), in addition to writing travel narratives, published accounts of travel and exploration to spur his countrymen to undertake additional journeys. In 1686 the French Huguenot Jean Chardin (1643–1713) published the first part of his narrative about his travel through the Safavid Persian empire, *The Travels of Sir John into Persia and the East Indies*. In it he gave information about contemporary Persian customs, education, and mannerisms to an increasingly literate society.

#### The Eighteenth-Century "Grand Tour"

During the eighteenth century, to be young, wealthy, and of noble descent meant that one could embark upon the "Grand Tour," an excursion that could last from months to years and during which one could learn about European politics, art, and culture. The tour became central in contributing to the education of young British aristocratic men. They especially favored Italian destinations, including Turin, Venice, Florence, and above all Rome because of its grandeur. The letters of William Beckford (1760– 1844), published in 1783, comprise one of the most famous travelogues of the Grand Tour, romantically entitled Dreams, Waking Thoughts and Incidents, in a Series of Letters, from Various Parts of Europe. The latter half of the eighteenth century brought an increase in political stability for Europe as well as rapid technological advancement spurred by the Industrial Revolution, which made cheaper, safer travel easier. Nineteenth-century English travel literature, written by explorers, missionaries, and diplomats, was extremely popular among the literate classes, served British imperialist interests, and depicted the often-tragic encounters between indigenous and European peoples.

#### Perspective

The continuing historical analysis of the immense body of rich and unique primary sources that make up travel literature will provide answers to questions concerning history, anthropology, and ethnography (study of culture). Further studies of travelers' guides, many of which still await scholarly analysis, undoubtedly will offer increasingly nuanced understandings of the economic, political, social, and cultural interactions engendered by travel.

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See also Tourism

#### **Further Reading**

- Beckford, W. (1986). *The Grand Tour of William Beckford (1760–1844)*. Harmondsworth, UK: Penguin Books.
- Binding, P. (2004). Imagined corners: Exploring the world's first atlas. London: Review.
- Black, J. (1992). The British abroad: The Grand Tour in the eighteenth century. New York: St. Martin's Press.
- Blackmore, J. (2002). Manifest perdition: Shipwreck narrative and the disruption of empire. Minneapolis: University of Minnesota Press.
- Blanton, C. (2002). Travel writing: The self and the world. New York: Routledge.
- Bohls, E. (1995). Women travel writers and the language of aesthetics. Cambridge, UK: Cambridge University Press.
- Campbell, M. B. (1988). The witness and the other world: Exotic European travel writing, 400–1600. Ithaca, NY: Cornell University Press.
- Chaudhuri, K. N. (1985). Trade and civilisation in the Indian Ocean: An economic history from the rise of Islam to 1750. Cambridge, UK: Cambridge University Press.
- Conley, T. (1996). The self-made map: Cartographic writing in early modern France. Minneapolis: University of Minnesota Press, 1996.
- Dathorne, O. R. (1994). *Imagining the world: Mythical belief versus reality in global encounters.* Westport, CT: Bergin and Garvey.
- Dolan, B. (2000). Exploring European frontiers: British travellers in the age of enlightenment. London: Macmillan.
- Dunn, R. E. (1986). The adventures of Ibn Battuta: A Muslim traveler of the 14th century. Berkeley and Los Angeles: University of California Press.
- Gilroy, A. (Ed.). (2000). Romantic geographies: Discourses of travel 1775–1844. Manchester, UK: Manchester University Press.
- Godlewska, A. M. C. (1999). Geography unbound: French geographic science from Cassini to Humboldt. Chicago: University of Chicago Press.
- Helms, M. W. (1988). Ulysses' sail: An ethnographic odyssey of power, knowledge, and geographical distance. Princeton, NJ: Princeton University Press.
- Hoinacki, L. (1996). El camino: Walking to Santiago de Compostela. University Park: Pennsylvania State University Press.
- Hourani, G. F. (1951). Arab seafaring in the Indian Ocean in ancient and medieval times. Princeton, NJ: Princeton University Press.
- Jacobs, M. (1995). The painted voyage: Art, travel and exploration, 1564–1875. London: British Hydromechanics Association.
- Kirby, P. F. (1952). The Grand Tour in Italy (1700–1800). New York: S. F. Vanni
- Korte, B. (2000). English travel writing from pilgrimages to postcolonial explorations. New York: St. Martin's Press.
- Larner, J. (1999). Marco Polo and the discovery of the world. New Haven, CT: Yale University Press.

Miller, J. I. (1969). The spice trade of the Roman empire, 29 B.C. to A. D. 641. Oxford, UK: Oxford University Press.

Olschki, L. (1960). Marco Polo's Asia: An introduction to his description of the world called Il Milione. Berkeley and Los Angeles: University of California Press.

Padrón, R. (2004). The spacious word: Cartography, literature, and empire in early modern Spain. Chicago: University of Chicago Press.
 Parry, J. H. (1981). The discovery of the sea. Berkeley and Los Angeles: University of California Press.

Penrose, B. (1952). Travel and discovery in the Renaissance, 1420–1620. Cambridge, MA: Harvard University Press.

Phillips, C. R., & Phillips, W. D., Jr. (1992). The worlds of Christopher Columbus. New York: Cambridge University Press.

Phillips, J. R. S. (1998). *The medieval expansion of Europe* (2nd ed.). Oxford, UK: Clarendon Press.

Polo, M. (1958). *The travels* (R. E. Latham, Trans.). New York: Penguin Books.

Rogers, F. M. (1962). The quest for eastern Christians: Travels and rumor in the age of discovery. Minneapolis: University of Minnesota Press.

Stafford, B. M. (1984). Voyage into substance: Art, science, nature and the illustrated travel account, 1760–1840. Cambridge, MA: MIT Press.

Trease, G. (1967). The Grand Tour. New York: Holt, Rinehart and Winston.

Whitfield, S. (1999). *Life along the Silk Road*. Berkeley and Los Angeles: University of California Press.

Zamora, M. (1993). Reading Columbus. Berkeley and Los Angeles: University of California Press.

# Treaty of Versailles

The Treaty of Versailles was the first and most important of the treaties that ended World War I. Signed at the Palace of Versailles outside Paris on 28 June 1919, the treaty was the product of the Paris Peace Conference. In essence the treaty established the terms of peace between the victorious "Allied and Associated Powers" (principally the United States, the British empire, France, Italy, and Japan) and Germany.

The Paris Peace Conference itself opened on 18 January 1919. The key participants included U.S. President Woodrow Wilson, French Prime Minister Georges Clemenceau, British Prime Minister David Lloyd George, and Italian Prime Minister Vittorio Orlando. The victorious powers required almost four months to agree on the terms of peace. In addition, the conference determined

the shape of the new League of Nations and the International Labor Organization. Only in late April, when a draft treaty was at last agreed upon, were the Germans invited to Versailles. Count Ulrich von Brockdorff-Rantzau, a career diplomat, led the German peace delegation representing the new Weimar Republic.

Quite apart from the terms of the treaty, the process of peace making at Versailles was intensely controversial. Participants gave little thought to the consolidation of Germany's new democracy. The treaty was handed to the Germans, as a virtual fait accompli (accomplished fact), at a ceremony at the Trianon Palace Hotel on 7 May 1919. Clemenceau warned that no round-table negotiations would be contemplated. On 29 May the German delegation submitted a formidable list of counterproposals, complaining that the terms were scarcely reconcilable with either the spirit or the letter of President Wilson's liberal speeches of 1918. However, in response, the victorious powers offered few amendments. On 16 June Clemenceau demanded a German signature to the treaty within five days (later extended to seven days) and threatened to resume the war if Germany failed to sign. Therefore, the German government was under immense pressure. In particular, the continuation of the economic blockade throughout the armistice period worsened a serious food crisis inside Germany that weakened the government's bargaining position. The socialist-led government of Philipp Scheidemann resigned rather than sign the treaty as it stood. However, a new socialist-led coalition government, under Otto Bauer, bowed to the inevitable and sent emissaries to sign.

#### **Territorial Terms**

The principal territorial terms of the treaty imposed significant transfers of territory from the former German empire to its neighbors. Alsace-Lorraine was returned to France (restoring the border of 1815–1870). In the East a territory of 43,000 square kilometers, forming the greater part of the provinces of Posen and West Prussia, was ceded to Poland. This territory, often referred to as the "Polish Corridor," separated East Prussia from the rest of Germany. The city of Danzig, at the north of the Polish

Ten thousand fools proclaim themselves into obscurity, while one wise man forgets himself into immortality. • Martin Luther King, Jr. (1929–1968)

Corridor, was made a "free city" under the administration of the League of Nations. Memel in East Prussia was also ceded and eventually incorporated into Lithuania. In the West small border territories around Eupen and Malmédy were ceded to Belgium. Postwar plebiscites (votes) were also imposed in order to settle new territorial boundaries in a number of disputed zones: in Schleswig (resulting in the transfer of one zone in north Schleswig to neutral Denmark in 1922), in East Prussia (resulting in Germany's retention of territory around Allenstein and Marienwerder in 1920), and in Upper Silesia (resulting in the division of the province between Germany and Poland in 1922). In addition to these territorial changes, the Rhineland, including three key bridgeheads beyond the Rhine River, was subjected to military occupation for fifteen years by Allied and Associated troops. The Saar River basin was transferred to the administration of the League of Nations for fifteen years (to be followed by a plebiscite), during which time the coal mines of the area were to be placed under French ownership. The greatest transfers of territory, however, took place in colonial possessions. Germany was deprived of its entire colonial empire. Under a complex system of League of Nations mandates, the former German colonies, containing almost 13 million people, passed to the administration of the victorious powers.

The military terms of the treaty achieved Germany's effective disarmament. The army was reduced, by stages, to a maximum of 100,000 men, on the basis of voluntary enlistment. The Rhineland was demilitarized with respect to German arms and fortifications. The navy was reduced to a tiny fraction of its former size, and Germany was not permitted to possess any battleships of the dreadnought class, nor any submarines. Germany was not permitted to retain any air force. The German government offered little resistance to these provisions but insisted that disarmament should be applied to all nations.

#### Reparations

Germany especially resented the economic and financial provisions of the treaty. This resentment arose from the controversy surrounding reparations. During the war President Wilson, although rejecting the prospect of any punitive indemnity, had conceded the justice of reparations. Other victorious powers, and Britain in particular, hoped to achieve an indemnity within an expanded claim for reparations. At Paris, much to the chagrin of his own advisers, Wilson surrendered to pressure from Britain and France in favor of significant economic penalties against Germany. In an effort to appease popular expectations in Britain and France for a vast indemnity, negotiators drafted the notorious Article 231. This article asserted Germany's responsibility for "causing all the damage" that the victorious powers had suffered "as a consequence of the war imposed upon them by the aggression of Germany and her Allies" (Sharp 1991, 87). Article 231 was soon interpreted inside Germany as an assertion of Germany's sole responsibility or "guilt" for causing the war. It was alleged by German critics that this assertion of exclusive German war guilt underpinned all the economic clauses of the treaty. A huge indemnity was clearly in excess of the "compensation...for all damage done to the civilian population" (Schwabe 1985, 85), which Germany had accepted in diplomatic exchanges preceding the armistice (the Lansing Note of 5 November 1918). In the treaty Germany was obliged to accept an unspecified total of reparations. This total was likely to be massive because it had to cover a much-expanded list of legitimate damages drawn up by the Allies, including pensions to Allied servicemen. The treaty named no final total to be paid by Germany, but rather the Reparations Commission was established and charged with reporting a final total by May 1921.

The treaty's consequences were of tremendous significance. In Germany the liberals and democratic socialists were smeared as "November Criminals" who had betrayed Germany by launching a revolution to achieve democracy and peace on 9 November 1918. The revolution, it was alleged, had disabled Germany and ensured her defeat. In the eyes of rigid nationalists, democracy in Germany symbolized national humilia-

tion. The victorious powers also did much soul searching. Critics argued that the victorious powers had undermined their own moral authority. The most influential criticism was by the British economist John Maynard Keynes. He had left the Paris Peace Conference in protest in June 1919 and published his passionate denunciation of the treaty, The Economic Consequences of the Peace, in December. In the United States, Wilson's failure to carry his own vision of a peace of reconciliation marked the treaty as a defeat for all those people promoting liberal internationalism. Disappointed liberals disavowed Wilson and the treaty. This disavowal contributed to Wilson's eventual failure to persuade the U.S. Senate to support either the treaty or U.S. entry into the League of Nations, despite a longr-running political campaign in 1919-1920. The U.S. decision not to enter the new league did much to debilitate the league during the 1920s and 1930s.

Douglas Newton

See also Interwar Years (1918-1939); World War I

#### **Further Reading**

- Boemeke, M. F., Feldman, G. D., & Glaser, E. (Eds.). (1998). *The Treaty of Versailles: A reassessment after 75 years*. Cambridge, UK: German Historical Institute and Cambridge University Press.
- Floto, I. (1973). Colonel House in Paris: A study of American policy at the Paris Peace Conference, 1919. Princeton, NJ: Princeton University Press.
- Kent, B. (1989). The spoils of war: The politics, economics, and diplomacy of reparations, 1918–1932. Oxford, UK: Oxford University Press.
- Lentin, A. (1984). Guilt at Versailles: Lloyd George and the pre-history of appeasement. Leicester, UK: Leicester University Press.
- Mayer, A. J. (1968). Politics and diplomacy of peacemaking: Containment and counterrevolution at Versailles, 1918–1919. London: Weidenfeld and Nicolson.
- Newton, D. (1997). British policy and the Weimar Republic, 1918–1919. Oxford, UK: Oxford University Press.
- Schwabe, K. (1985). Woodrow Wilson, revolutionary Germany and peacemaking, 1918–1919: Missionary diplomacy and the realities of power. Chapel Hill: University of North Carolina Press.
- Sharp, A. (1991). The Versailles settlement: Peacemaking in Paris, 1919. Basingstoke, UK: Macmillan.
- Thompson, J. M. (1966). Russia, Bolshevism and the Versailles peace. Princeton, NJ: Princeton University Press.
- Vincent, C. P. (1985). The politics of hunger: The Allied blockade of Germany, 1915–1919. Athens: Ohio University Press.

### Túpac Amaru

(c. 1742-1781)

PERUVIAN REVOLUTIONARY

**▼**n 1780 Túpac Amaru (José Gabriel Condorcanqui), **L** an indigenous ethnic lord or *kuraka* in the region near Cuzco in the Peruvian highlands, led the largest and most serious rebellion in South America against Spanish colonial authority in the period between the sixteenth-century wars of encounter and conquest and the early nineteenth-century movements toward independence. Centered in a rural region near the old Inca capital of Cuzco, especially in the provinces of Canas y Canchis (Tinta) and Quispicanchis, where Túpac Amaru and much of his family lived, this rebellion quickly engulfed the southern highland region of the Viceroyalty of Peru from Cuzco to Lake Titicaca and beyond. Other uprisings in what is now Bolivia (at that time the Viceroyalty of Río de la Plata) have become associated historically with the Túpac Amaru rebellion even though at least one of them began before the Cuzco movement. In the region between Sucre and Potosí, several members of the Katari family led local villagers in a movement that challenged the colonial order at both the village and governmental level. To the north, near La Paz, Julián Apasa, who looked to the leaders of the other two rebellions to form his nom de guerre—Túpac Katari—fought on his own and with the forces of the Túpac Amaru rebellion to break Spanish control in that region.

Túpac Amaru's father died when he was young, and he was raised by his uncles and the local priest. He also studied at the Jesuit school for indigenous nobility in Cuzco. He ran a business of transporting goods throughout the southern Andes and he also had interests in mines. He got along well with most priests and with the bishop of Cuzco. His relationship with local Spanish officials was much more stormy, but it too varied from individual to individual. Túpac Amaru—actually Túpac Amaru II—was descended from Manco Inca, the Inca ruler who rose in rebellion against the Spaniards shortly after their

taking of Cuzco in the 1530s and who established a neo-Inca state in Vilcabamba. Also among his ancestors was Túpac Amaru I, Manco's son and the last leader of the Vilcabamba resistance.

Túpac Amaru II pressed the Spanish courts to be recognized as heir to the Inca throne. Two factors worked to feed belief in the return of the Inca to power: The works of Garcilaso de la Vega glorified the rule of the Inca, and the myth of *Inkarrí* spread. According to the *Inkarrí* myth, the body of the Inca ruler was regenerating from his buried head (the first Túpac Amaru had been beheaded by the Spanish after surrendering), and when the process was complete he would reemerge to reestablish the more just rule and social order that had existed before the arrival of the Europeans.

#### Colonial Oppression

At the time Túpac Amaru was voicing his claims, Andean indigenous society was suffering from the changes the Spanish crown was making in the colonial structure. In the eighteenth century, Spain, like other European powers, tightened its control over its colonial possessions. In the Spanish realm this meant, among other changes, making a determined effort to restructure the colonies so they would be more lucrative for the mother country. In the Andes there was an effort to increase the efficiency in collecting tribute and sales taxes were not only increased but also imposed on some items produced by indigenous people that had previously been exempt. In addition, some items that previously had not been taxed became subject to increasing taxation and customs houses were established to ensure collection of these duties. This disrupted trading and exchange in the southern highlands, as did the creation of the Viceroyalty of Río de la Plata, which took over control of much of the region that later rebelled.

At the same time, local Spanish authorities known as *corregidors* pressed the indigenous population ever harder after the informal forced sale of goods was legalized. *Corregidors* often abused their colonial right to force

the sale of goods by doubling or even tripling the established quotas. This practice aroused the ire of many indigenous people, some of whom began to balk at such excessive economic coercion.

Parallel to these changes, the indigenous population was finally starting to grow after the terrible decline caused largely by the epidemics of Old World diseases that devastated the New World well into the eighteenth century in the Andes. Thus, just as the colonial government was increasing its demands, the indigenous peoples were seeing their per capita resource base shrink as villages once again were teeming with people. This conjunction of international, regional, and local circumstances increased tensions and created a climate in which a rebellion might gain hold.

# Rebellion and Aftermath

The combination of messianic hopes, deep discontent over the current political situation, and the presence of a leader created a conjuncture in which rebellion erupted. Spreading like wildfire over the southern highlands of Peru and Bolivia, the rebellions of the early 1780s shook colonial society to its foundations and led to some 100,000 deaths. Túpac Amaru was captured when the rebellion was just a few months old and he and much of his family were executed in a most brutal manner in the plaza of Cuzco while other family members were exiled. Despite the suppression of the rebellions they led, however, Túpac Amaru, Túpac Katari, and the Katari family had all given direction and voice to many of the exploited peoples of the Andes, who under increasing pressure risked everything to end their exploitation and establish a more just rule under a system that would be culturally meaningful to them. In the short run the rebellion put a fear into the dominant society that increased the distance between the races in Peru. Over the longer haul the image of Túpac Amaru as a harbinger or symbol of social justice has emerged. The left-leaning military government of Velasco used his image and rhetoric from the rebellion to promote social change in the late 1960s, the dream of



Inkarrí lives on, and the Túpac Amaru revolutionary movement of recent times obviously chose him as their symbol because of what he means in the minds of many ordinary Peruvians today.

Ward Stavig

See also Andean States; Spanish Empire

#### **Further Reading**

O'Phelan Godoy, S. (1985). Rebellions and revolts in eighteenth century Peru and Upper Peru. Cologne, Germany: Bohlau Verlag Koln Wien. Stavig, W. (1999). The world of Tupac Amaru. Lincoln: University of Nebraska Press.

Stern, S. J. (Ed.). (1987). Resistance, rebellion, and consciousness in the Andean peasant world, eighteenth to twentieth centuries. Madison: University of Wisconsin Press.

Serulnikov, S. (2003). Subverting colonial authority. Durham, NC: Duke University Press.

Thompson, S. (2002). We alone will rule: Native Andean politics in the age of insurgency. Madison: University of Wisconsin Press.

### Turkic Empire

The Türks created a vast Eurasian empire that domi-▲ nated the nomadic steppe zone and adjoining lands of sedentary civilization from Manchuria to the Black Sea from the mid-sixth to mid-eighth century. It was the first of the great, trans-Eurasian empires and was surpassed in size only by the Mongol empire of the thirteenth century, which in many respects was built on Türk traditions of governance. The name Türk was adopted by other Turkicspeaking peoples as a political designation during the period of the Türk empire. It then was used by the Türks' neighbors (for example, by the geographers and historians of the Muslim world) to denote the Turkic-speaking peoples with whom they came into contact from the latter half of the seventh century onward. Most of these peoples had been part of the Türk state. *Türk* survives today as the ethnorym of the dominant ethnic grouping of the modern Turkish state and has been used as an ethnic designation for other Turkic peoples.

#### **Origins**

Türk origins remain obscure. Their language, first recorded in a series of inscriptions in the Orkhon river region, the center of their state in present-day Mongolia, belongs to the Altaic language family, which consists of Turkic, Mongolic, Manchu-Tungus, and possibly Korean and Japanese. There has been much debate over whether these language groupings are related genetically or have converged due to long periods of contact and borrowing. There can be little doubt that the Türks emerged from Mongolia and southern Siberia, the westernmost region of the Altaic peoples, who were largely in Manchuria. The Türks' immediate neighbors to the west and northwest were Iranians (in western Mongolia) and the Uralic peoples of Siberia.

The Türks, under this name, emerged onto the stage of history only in the mid-sixth century. Various Turkicspeaking peoples had earlier been part of the Xiongnu (Asian Hun) empire (c. 209 BCE-mid-second century CE), of still undetermined ethnic origins. Some Turkic groupings migrated or were pushed westward to the steppes of present-day Kazakhstan and the Volga-Black Sea region as a result of warfare between the Xiongnu and the Chinese. The migrants were incorporated into the polity of the European Huns, whose relationship with the Xiongnu remains the subject of much debate. These early migrations initiated a movement by Turkic peoples from the Chinese borderlands to the western steppes that continued for more than a millennium. Later empires in Mongolia, such as the Rouran (Asian Avars, early fourth century CE-552 CE), drove other Turkic groupings westward into the Black Sea steppes by around 463. None of these peoples called themselves Türks.

The Orkhon inscriptions tell us nothing of Türk origins. Contemporary Chinese accounts, which state that they derived from "mixed Xiongnu," record a variety of ethnogonic tales reflecting, in all likelihood, the diverse origins of the core peoples that constituted the tribal union the Chinese termed *Tujue*. The name *Türk* does not appear until the Chinese accounts relate the foundation of their state in the mid-sixth century. The Chinese

sources also note their ruling clan (or tribe) as the Ashina and place some of the latter's early (fifth-century) history in the Gansu-Xinjiang region of northwestern China, areas that were then populated by Tokharian and Iranian peoples. The name Ashina appears to derive from an Iranian or Tokharian term and is noted in an inscription written in Sogdian (the principal language of the Silk Road) dating to 582, the earliest inscription known thus far from the Türk empire. Here, the Ashinas are paired with the Türks, perhaps indicating that they were still two distinct entities at this time. The Orkhon inscriptions subsequently make note of the Kök Türk (in Turkic, kök means "sky, sky-blue") which may refer to this earlier distinction. The color blue was associated with the direction east in Inner and East Asia. Hence, Kök Türk may also mean "Eastern Türks" or even "Heavenly Türks" (as it has sometimes been rendered). None of the names of the early Türk qaghans is of Turkic origin (qaghan is the Inner Asian title for "emperor" first noted in the third century CE).

# Formation of the Türk Empire

The Türks came to prominence as the older states around them were crumbling. The Tuoba Wei dynasty (386–534 CE), a semi-Sinicized dynasty of Altaic origins that had controlled much of northern China, had divided into two warring rival states: the Eastern Wei (534-550), which was replaced by the Qi (550–557), and the Western Wei (535–557), which was replaced by the Northern Zhou (557–581). In Mongolia, the Rouran (or Avars) were increasingly caught up in internal dynastic strife and periodic revolts of vassal peoples. Among the latter were the Türk-Ashina, who engaged in metalworking for their Rouran overlords. The Rouran qaghan Anagui (520-552) made an alliance with the Eastern Wei. The Western Wei retaliated in 545 by opening communications to Bumin, the Türk-Ashina leader. When Bumin was refused a Rouran royal bride as reward for his role in suppressing a revolt of the eastern Tiele (a large union of Turkic and Mongolic tribes that extended from northern Mongolia to the Pontic steppes in present-day Ukraine) in 551, the Western Wei sent off a princess to him, thereby cementing their ties. Bumin destroyed the Rouran in 552 and took over their empire. A program of conquest immediately followed.

While Bumin (who died shortly after this) and his sons Golo (d. 553) and Muqan (or Mughan; reigned 553–572) consolidated their control in Mongolia, his brother Ishtemi (reigned 552–c. 576) extended Türk power to the western steppes and the Crimea, laying the foundations of the western Türk empire. Following old steppe principles of governance, the Türk empire was divided in two for administrative purposes. The supreme *qaghan* resided in the East; his counterpart in the West had slightly less power. Their subjects now included the Sogdians who were the principal merchants of the Silk Road, various other Iranian sedentary and nomadic peoples of Central Asia, and a number of Turkic tribes that had earlier migrated westward.

Allied with the Sasanid empire of Iran, Ishtemi crushed the Hephthalite state (in modern Afghanistan), which derived from a mix of Asian Avar and Hunnic elements, around 557. At about this same time, a people calling themselves Avars, who had fled the Türk conquest, made their appearance in the Pontic steppes and opened diplomatic relations with Byzantium. The Türks under Ishtemi soon appeared, and the Avars, accompanied by some subject tribes, retreated to Pannonia (modern Hungary). Türk power now extended from Manchuria to the Crimea. The Avars remained safely ensconced in Pannonia until their state was destroyed by the Franks of Charlemagne at the end of the eighth century. They frequently raided Byzantine holdings in the Balkans, often in conjunction with the Slavs, substantial groupings of which began to settle in the region, giving rise to the Southern Slavic peoples of today.

The Türks, having conflicting trade and political goals with Iran, broke with the Sasanids and established relations with Constantinople in 568. Byzantium, having recently established its own silk industry and no longer as dependent on the Silk Road and Iran for this luxury good, was nonetheless anxious to have allies against Iran. The Türks were seeking an outlet for the silk that they were getting from China. The resulting Byzantine-Türk

They deem me mad because I will not sell my days for gold; and I deem them mad because they think my days have a price. • Kahlil Gibran (1883–1931)

alliance did not work smoothly, the Türks often berating Constantinople for having dealings with their "runaway slaves," the Avars.

## The First Qaghanate: East (552–630 ce) and West (557–659 ce)

The Türks were able to exploit the political fragmentation of northern China, whose competing dynasties were only too willing to buy the Türks off with silk and trading privileges. The zenith of Türk power was reached during the reign of Taspar (or Tatpar, reigned 572–581), Muqan's younger brother. Thereafter, China, reunited under the Sui dynasty (581–618), regained the military upper hand. This coincided with increasing strife among the ruling Ashina. The Sui skillfully exploited these internecine disputes and encouraged revolts by subject peoples of the Türks. In the west, Tardu (d. c. 603), Ishtemi's son, trying to exploit the rivalries of his eastern cousins, made a bid for supreme power. Although his army was badly defeated around Herat by the Sasanid general Bahrâm Chôbîn of Iran in 589, Tardu recovered and by the late 590s was on the verge of realizing his ambitions. The Sui, however, instigated a massive revolt of the subject tribes, in particular the Tiele union, and Tardu disappeared from view. When the Sui overextended themselves with military ventures against Koguryo (in Korea), the Türks briefly revived. The Sui were swept from power by the Tang dynasty (618–907), themselves of probable Altaic origin and long familiar with the northern frontier zone. The Tang, like the Sui, capitalized on Ashina internal bickering and in 630 brought the eastern Türks, exhausted also by natural disasters, under their control. They were settled within China's borders and the Ashina and clan nobles were taken into the ranks of the Chinese military service.

Tardu's successors in the west fared better for a time. In the 620s the Byzantine Emperor Heraclius (reigned 610–641) used Türk forces under the western *quaghan*, Tong Yabghu Qaghan (618–630), to defeat the Sasanids in 628. Tong Yabghu, however, was assassinated by an uncle, and the western Türks divided into two rival factions, the Dulu and Nushibi, together termed the On Oq

("Ten Arrows"). They succumbed in 659 to Tang armies that ventured deep into Central Asia. The more westerly groupings of the Türks formed the Khazar state (c. 650–c. 965), which encompassed the Volga-Ukrainian steppes, the North Caucasus, and elements of the Eastern Slavs and Finno-Ugric peoples. The Khazars were the main obstacle to Arab advance beyond the North Caucasus.

### The Second Qaghanate: East (682–742 ce) and West (c. 700–c.766 ce)

Although the Tang preserved the eastern Türks, planning to use them as part of their border defense system against other nomads, the Türks proved to be recalcitrant subjects. The eastern Ashina Qutlugh (682-691), with a small band, rallied the Türks and reestablished the qaghanate in 682, taking the throne name Ilterish. He and his brother and successor, Qapaghan Qaghan (reigned 691–716), ably assisted by their chief counselor, the Chinese-educated Tonyuquq, reestablished their hold over the Inner Asian nomadic and forest peoples. In the words of the Orkhon inscriptions, they "made the poor rich and the few many" (Tekin 1988, 12). This was achieved through continual warfare, memorialized in the Orkhon inscriptions, against their frequently rebellious subject tribes, a policy that his successor, Bilge Qaghan (reigned 716-734), aided by his brother Köl Tegin (d. 731), was forced to continue due to ongoing resistance to Türk rule. Bilge Qaghan was poisoned, most probably by someone within his entourage. Thereafter, the familiar pattern of dynastic bickering led to the destruction of the eastern Türk Qaghanate in 742 by a coalition of subject tribes who were overthrown in turn by the Uighurs, another Turkic-speaking Central Asian people.

Meanwhile, the western Türks (under eastern Türk domination by 699) faced a growing threat from the Arabs. What had begun as Muslim raids in the late seventh century became a more systematic program of conquest under Qutaybah ibn Muslim (d. 714), a general in the service of the Arab Umayyad dynasty (661–750). Moreover, China and Tibet (now a major player in Central Asian affairs) were active in the region. Internecine

Arab strife allowed the western Türks to maneuver between China, Tibet, and the Arabs. The On Oq union, however, continued to face problems of political instability. The Turkic Qarluqs, a vassal subconfederation of the eastern Ashina, fled to the western Türk lands around 745. When the Arabs and the Chinese clashed on the Talas River (751, in Kazakhstan), the Qarluq defection to the Arabs proved decisive. But China's Tang dynasty soon was caught up with domestic rebellions (the An Lushan Rebellion in 755) and the Arabs, who were seeking to consolidate their hold over Sogdia and Khwarazm, withdrew from the steppe. By 766 the Qarluqs had made themselves masters of the western Türk steppes.

# Governance, Religion, and Society in the Turkic Empire

The Turkic empire followed the steppe imperial traditions first clearly articulated by the Xiongnu. The Rouran were probably the immediate source for many of the titles associated with high office. Most of these titles were of foreign origin (Iranian, Tokharian, Indian, Chinese). Typical of the steppe tradition, the Türks adhered to the notion of the collective sovereignty of the ruling clan over the whole of the empire. Any member of the Ashina could claim rule. An attempt to work out an orderly system of lateral succession (from brother to brother and thence to their sons) proved unworkable. Conflict often preceded, accompanied, and followed the elevation of a new qaghan. Qaghanal investiture involved elaborate rites, including the ritual strangulation with a silk cord of the new gaghan, who in a shaman-like trance, then stated the length of his reign. The qaqhan was often described as heavenlike or Godlike, indicating an ideology that stressed his sacral as well as temporal power. Upon his death, the qaghan "returned to the gods" (Moriyasu and Ochir 1999, 124). Nonetheless, the failure to work out an orderly and conflict-free system of succession proved fatal to the empire.

The Türks worshipped Tengri, a supreme celestial deity also worshipped by the Mongols, and they were also practitioners of shamanism. There are scattered references to Umay, a goddess of fertility, as well as to holy mountains, forests, and other refuges. Earth, water, and fire were also worshipped, and ancestor worship was practiced. Some of the early *qaghans* were also attracted to Buddhism. This and other religions came to the Türks through the Sogdians, who also brought them writing systems based on the Aramaic-Syriac alphabets. One or more of these alphabets were probably the source of the runic scripts that spread across Turkic Eurasia. The Orkhon inscriptions, carved by Chinese artisans, were written in one of the variants of this runic script.

The Türks brought under their rule a wide range of Turkic and other Altaic peoples, Iranians, and Uralic and Paleo-Siberian peoples. The steppe peoples practiced pastoral nomadism, and the Türks continued to live in felt tents and consume a diet that was high in dairy products (including fermented mare's milk) and meat. For other goods they relied on trade or raiding the neighboring sedentary states, especially China. They were vitally interested in trade, and with their Sogdian vassals they played a major role in the unification of the Silk Road, one of the major arteries of East-West commerce in the medieval world. Their empire also set the pattern for subsequent steppe empires.

Peter Golden

See also Steppe Confederations

### **Further Reading**

Barfield, T. (1989). The perilous frontier: Nomadic empires and China. Oxford: Basil Blackwell.

Beckwith, C. (1987). The Tibetan empire in central Asia. Princeton, NJ: Princeton University Press.

Chavannes, E. (1941). Documents sur les Tou-Kiue (Turcs) occidentaux [Documents on the western Tou-Kiue (Türks)]. Paris: Librairie d'Amérique et d'Orient.

De la Vaissière, E. (2002). *Histoire des marchands sogdiens* [History of the Sogdian merchants]. Paris: Collège de France, Institut des hautes études chinoises.

Golden, P. B. (1992). An introduction to the history of the Turkic peoples. Wiesbaden, Germany: Harrassowitz.

Graff, D. A. (2002). *Medieval Chinese warfare*, 300–900. London: Routledge.

Klyashtorny, S. G. (1994). The royal clan of the Türks and the problem of early Turkic-Iranian contacts. *Acta Orientalia*, 47(3), 445–447.

Kyzlasov, I. L. (1994). Runicheskie pis'mennosti evraziiskikh stepei [The runic scripts of the Eurasian Steppes]. Moscow, Russia: Vostochnaia Literatura.

Stability and peace in our land will not come from the barrel of a gun, because peace without justice is an impossibility. • Desmond Tutu (b. 1931)

Moriyasu, T., & Ochir, A. (Eds.). (1999). Provisional report of researches on historical sites in Mongolia from 1996 to 1998. Kyoto, Japan: The Society of Central Eurasian Studies.

Sinor, D. (Ed.). (1990). The Cambridge history of early inner Asia. Cambridge, UK: Cambridge University Press.

Tekin, T. (1988). Orhon Yazıtları [The Orkhon Inscriptions]. Ankara, Turkey: Türk Tarih Kurumu.

Yihong, P. (1997). Son of heaven and heavenly Qaghan: Sui-Tang China and its neighbors. Bellingham: Western Washington University Press.

### Tutu, Desmond

(в. 1931)

SOUTH AFRICAN CLERIC AND OPPONENT OF APARTHEID

esmond Mpilo Tutu, a leading opponent of South Africa's racist apartheid system, became chair of the South African Truth and Reconciliation Commission after the fall of the apartheid regime. He has received numerous honorary degrees and awards, including the 1984 Nobel Peace Prize. As an Anglican priest, Tutu served the church as a priest, chaplain, curate, theologian, dean, bishop, and archbishop; he has also served as general secretary of the South African Council of Churches.

Desmond Mpilo Tutu was born in Klerksdorp, Transvaal, South Africa. After receiving his high school diploma in 1950, he earned his teacher's diploma from Pretoria Bantu Normal College in 1953 and his BA from the University of South Africa in 1954. He then taught high school for four years, during which time he met and married his wife Leah, with whom he had three daughters and a son. As Tutu began his teaching career, everyday life for the majority black population in South Africa was drastically changing for the worse. In 1948 a white minority government implemented the comprehensive system of racial segregation, disenfranchisement, land alienation, and oppression known as apartheid. Under apartheid, white student education was well funded and of a high quality, while blacks were forced to attend inferior schools, study restricted curriculums, and had limited access to higher education and job opportunities. Tutu quit teaching in 1958 to protest this unjust educational system.

An early influence in Tutu's life was the Anglican bishop Trevor Huddleston, an early and tireless opponent of apartheid who inspired Tutu to enter the ministry. Ordained an Anglican priest in 1961, Tutu then traveled to London, where he earned bachelor of divinity honors and master of theology degrees. Returning to South Africa in 1966, Tutu taught theology at black universities before becoming associate director of the World Council of Churches, based in London, in 1972. In 1975 he became the first black African named Dean of St. Mary's Cathedral in Johannesburg. He held this position for only a year, however, before becoming bishop of Lesotho, where he served until 1978. He then became the first black African to be installed as general secretary of the South African Council of Churches (SACC).

In 1976 black students in townships across South Africa, most notably in Soweto near Johannesburg, erupted in protest against new apartheid laws that severely affected the already inferior black educational system. Tutu's position as SACC general secretary and his ability to speak publicly at a time when most black South African leaders were in jail or otherwise silenced offered him a unique platform from which to criticize the apartheid system. He soon became an internationally respected figure as he exposed apartheid's evils. When he called for economic sanctions against South Africa, the apartheid government withdrew his passport, but had to restore it again in 1982 under international pressure.

Tutu's peaceful but insistent campaign against racial injustice in South Africa earned him the Nobel Peace Prize in 1984. The Nobel Committee's announcement cited "Tutu's role as a unifying leader figure in the campaign to resolve the problem of apartheid in South Africa. The means by which this campaign is conducted is of vital importance for the whole of the continent of Africa and for the cause of peace in the world" (Nobel Foundation 2004).

Tutu left his post as SACC General Secretary in 1985 and became a leader in the United Democratic Front, a multiracial mass movement that sought to overturn the apartheid system peacefully. The movement realized its goal in 1994 when Nelson Mandela (b. 1918), a leader

### Desmond Tutu's Message to Australian Reconciliation Convention (1997)

Bishop Desmond Tutu serves as an inspiration to individuals and groups around the world. In the extracts below, Bishop Tutu sends a message of support to the 1997 Australian Reconciliation Convention—which commemorated efforts to "reconcile" Australia's indigenous people to the rest of the nation and accord them the rights denied them through the years.

I send you very warm greetings from the new South Africa, a democratic South Africa, the free South Africa, the non-racial non-sexist South Africa.

We won a spectacular victory over the apartheid obsession with race and skin colour which was ready to inflict untold, and unnecessary suffering on God's children, because they were not white.

The world marvelled when they saw all those South Africans voting in the first democratic elections in 1994. The world thrilled when they watched the inauguration of Nelson Mandela as the first democratically elected President of South Africa.

Friends, we won a great victory. But that would have been quite impossible without your support, without your prayers, without your involvement in the sports boycott, and in the campaign to uphold the economic sanctions of the apartheid regime.

Our victory is in a very real sense your victory. [...] Now the world watches again and marvels at what it beholds. South Africans telling stories of horrible atrocities that were perpetrated in the past.

And the world marvels at the victims, instead of being filled with hatred and bitterness and a desire for revenge, incredibly the victims are willing to forgive. [...]

The eyes of South Africans are being opened. They are learning not to see a black or white, man or woman, they are learning to see a fellow South African, a fellow human being, someone created in the image of God, and therefore someone of infinite worth.

The eyes of South Africans have been opened, and they are learning to see that there are differences. Far from separating them from one another, as in the past, it makes them need one another. They are learning to realise that a rainbow is a rainbow precisely because of its different colours. They are learning that South Africans celebrate our diversity as we grow in the knowledge that we are the Rainbow People of God.

May God bless you all as you strive for reconciliation, for forgiveness and for justice and work to celebrate your diversity as the Rainbow People of God in Australia.

Source: Australian Reconciliation Convention. (1997). Retrieved September 7, 2004, from http://www.austlii.edu.au/au/other/IndigLRes/car/1997/3/speeches/opening/tutu.htm

of South Africa's main black political party, the African National Congress, became the first democratically elected President of South Africa. The following year Mandela appointed Tutu chair of the Truth and Reconciliation Commission, an unprecedented effort by South Africans to come to terms with their recent, dark past. The Commission focused on political crimes and human rights violations committed between 1960 and 1994, offering immunity to those who confessed their guilt. The Commission's report, issued in 1998, documented more information about political crimes and victims than any similar endeavor in world history. Although the Com-

mission's work was highly controversial, Tutu maintained throughout the hearings a deep spirit of forgiveness and understanding rather than revenge. Tutu has often referred to the African concept of *ubuntu*, which includes the ideals of human brotherhood, mutual responsibility, and compassion.

Following his work with the Truth and Reconciliation Commission, Tutu went to Atlanta, Georgia, in 1998 to teach at Emory University. In 2000 he returned to South Africa, where he continues, as always, to fight for political, economic, and social justice for all the world's peoples. Like Gandhi, Martin Luther King Jr., and the

fourteenth Dalai Lama, Tutu is one of the twentieth century's most courageous practitioners of nonviolent activism against injustice and oppression. His thirty year nonviolent campaign against apartheid, and the compassion and strength he displayed in healing wounds and uniting peoples during the Truth and Reconciliation Commission hearings have given him a unique place in world history.

Roger B. Beck

See also Apartheid in South Africa

#### **Further Reading**

- Battle, M. J. (1997). Reconciliation: The ubuntu theology of Desmond Tutu. Cleveland, OH: Pilgrim Press.
- Nobel Foundation. (2004). *The Nobel Peace Prize for 1984*. Retrieved March 13, 2004, from http://www.nobel.se/peace/laureates/1984/press.html
- Tlhagale B., & Mosala, I. (Eds.). (1996). Hammering swords into ploughshares: Essays in honor of Archbishop Mpilo Desmond Tutu. Braamfontein, South Africa: Skotaville Publishers.
- Tutu, D. (1984). Hope and suffering: Sermons and speeches. Grand Rapids, MI: W. B. Eerdmans.
- Tutu, D. (1990). Crying in the wilderness: The struggle for justice in South Africa. Grand Rapids, MI: W. B. Eerdmans.
- Tutu, D. (1996). The rainbow people of God: The making of a peaceful revolution. New York: Doubleday.
- Tutu, D. (2000). No future without forgiveness. New York: Doubleday.
- Tutu, D. (2004). God has a dream: A vision of hope for our time. New York: Doubleday.
- Tutu, D. M., & Tutu, N. (1996). The words of Desmond Tutu. New York: Newmarket Press.

Ugarit
'Umar ibn al-Khattab
United Nations
Universe, Origins of
Urban II
Urbanization
Utopia

### Ugarit

garit is the name of an ancient urban center located on the Syrian coast. The contemporary Arabic name for the site is Ras Shamra (Fennel Cape). It was a cosmopolitan center of trade during the Middle Bronze II and Late Bronze periods (2000-1550 BCE and 1550-1200 BCE, respectively), with an ethnically diverse population. Since 1929 many texts written in Hurrian, Akkadian, Sumerian, and Ugaritic—the native language of the city's inhabitants—have been discovered within its environs. Significant archeological discoveries have also been made at Minet el-Beida (west of the city on the coast), believed to be its port, and at Ras Ibn Hani, located some 4.5 kilometers to the south. The archeological record indicates that Ugarit was first occupied in the seventh millennium BCE and enjoyed its cultural zenith from the fourteenth through the thirteenth centuries BCE, from the time of the reign of Niqmaddu II (reigned c. 1350–1315 BCE) through the reign of Ammurapi (reigned c. 1215–1190/ 1185 BCE). During this time, the city was the center of a kingdom whose territorial expanse—at its height—was roughly 5,425 square kilometers. Extant evidence suggests that the city was destroyed around 1190 BCE by an invading force from the eastern Mediterranean region. Ugaritic documents identify the invaders as the "Shikila people," part of the larger group of "sea peoples" known to have attacked the Egyptian and Hittite kingdoms during the same period. After its destruction, the site was occupied only sparingly during the fifth to fourth centuries BCE and



the first century BCE. One of history's unresolved mysteries surrounds the virtual abandonment of this strategically vital site after the twelfth century BCE.

At its cultural high point, the population of Ugarit and its surrounding kingdom reached thirty-one thousand to thirty-three thousand persons, about six thousand to eight thousand of whom lived in the city proper, with another twenty-five thousand occupying a vast array of rural villages surrounding it. It was one of several independent coastal Levantine city-states that flourished during the Middle Bronze II and Late Bronze Periods. The city's location on a land bridge of strategic importance to these kingdoms, several of which had colonies and imperial holdings throughout the Near East, had a profound impact on its history. During the period in question, the city enjoyed a high degree of prosperity due in large part to favorable climactic conditions and its leaders' ability to negotiate political arrangements with the city's powerful neighbors. Of particular importance in this regard were the establishment of détente with Egypt, the formation of a protective alliance with the Amurru kingdom located to its immediate south, and eventual accession to vassalage under the Hittite empire located to its north.

The city's native language, Ugaritic, has affinities with Hebrew and other Canaanite dialects and is part of the Afroasiatic phylum. It is written in an alphabetic cuneiform script consisting of thirty signs. Ugaritic writing is almost strictly consonantal. Vowels are indicated very sparingly. Future study of this language and its script is likely to shed additional light on the development of writing systems in Phoenicia and Greece. It also promises to help us better understand the history of literacy in early and late antiquity. The corpus of Ugaritic literature consists of a rich and varied assortment of genres. The major edited collection of these texts (KTU) has identified literary and religious texts, letters, legal texts, economic texts, scribal exercises, and inscriptions on objects, as well as some texts that are unclassified and others that are illegible or fragmentary.

Ugarit was historically a prosperous and politically stable city governed by a single dynasty. Although less than half of the site has been fully excavated, evidence of intricate urban planning, with particular attention to public works, including city walls, streets, water works, and sewage facilities, has been found. Ugarit's monarch shared power with a prefect, queen, and nobles. Members of the royal family also exercised some influence in the determination of affairs of state. Its society was stratified, though not in a rigid manner. Vertical and horizontal movement was possible. Although it was a patriarchal society, women were afforded a number of rights and privileges. They could inherit family property, if so designated by the appropriate male head of household (i.e., a father or husband), designate heirs, initiate proceedings for divorce and adoption, purchase and dispense of property, and retain control of the possessions brought into a marital arrangement in the event of dissolution. The populace was separated into two large classes. The first consisted of "men of the king." These were craft specialists, warriors, and members of other elite groups retained by the monarch for service to the crown. The second was made up of the members of the



general populace, whose affairs were governed by familial norms and local customs enforced at the community level by councils of elders. The Ugaritic social hierarchy was extraordinarily complex and contained an array of military, scribal, and administrative classes. Intensive agriculture and international trade via land and sea fueled the city's economy. Cereals, grapes, and olives were grown. Stone was quarried, timber was harvested, and both cattle and sheep were raised. Given its proximity to the coast, fishing may well have been one of its mainstays. Industrial activities within the city and at its port included the manufacture of purple dye, textiles, pottery, household utensils, luxury items (metal and precious stones), and weapons. Slavery was also permissible. Extended family units consisting of parents, children, and other relatives appear to have been normative. Furthermore, one's family consisted of members both living and deceased. Thus, proper exercise of familial obligations included veneration of one's ancestors. Along with the worship of familial deities, ancestor veneration appears to have been an essential feature of Ugaritic religious life. Ugaritic theology was polytheistic. In excess of a hundred gods are mentioned in various pantheon lists and other sources. Chief among these are El and Asherah (the divine regent and his spouse), Baal (the storm god and coregent), Anat (warrior, member of the divine royal household, and sister of Baal), Yamm (the deified ocean and major rival of Baal for cosmic coregency), and Mot (the god that embodies the forces of death and dissolution in all of their cosmic and earthly manifestations). Two large temples and a rich assortment of ritual texts have been excavated that provide evidence of a complex religious hierarchy with several levels of functionaries including administrators, priests, and other officials.

Ugaritic expressive culture was also highly developed. The achievements of the city's artists in the areas of music, architecture, sculpture, and folklore are noteworthy.

In sum, data from Ugarit tell us a great deal about life in ancient Syria. Its material artifacts, texts, and history are also of particular interest to philologists, anthropologists, and other scholars of antiquity because of the light that its language, lore, and culture shed on developments in the larger Mediterranean world as well as in Anatolia, Syria-Palestine, Mesopotamia, and Egypt.

Hugh R. Page, Jr.

#### **Further Reading**

Dietrich, M., Loretz, O., & Sanmartín, J. (Eds.). (1995). The cuneiform alphabetic texts from Ugarit, Ras Ibn Hani and other places (KTU) (2nd ed., Abhadnlungen zur Literatur Alt-Syrien-Palästinas und Mesopotamiens, Band 8). Münster, Germany: Ugarit-Verlag.

Mazar, A. (1992). Archaeology of the land of the Bible: 10,000–586 BCE. New York: Doubleday.

Pardee, D., & Bordreuil, P. (1992). Ugarit: Texts and literature. In D. N. Freedman (Ed.), Anchor Bible dictionary (Vol. 6, pp. 706–721). New York: Doubleday.

Van Soldt, W. H. (2000). Ugarit: A second-millennium kingdom on the Mediterranean coast. In J. Sasson (Ed.), Civilizations of the ancient Near East (Vol. 2, pp. 1255–1266). Peabody, MA: Hendrickson.

Watson, W. G. E., & Wayatt, N. (Eds.). (1999). *Handbook of Ugaritic studies*. Leiden, Netherlands: Brill.

Wyatt, N. (Ed.) (1998). Religious texts from Ugarit: The Words of Ilimilku and his colleagues. Sheffield, UK: Sheffield Academic Press.

Yon, M. (1992). Ugarit: History and archaeology. In D. N. Freedman (Ed.), Anchor Bible dictionary (Vol. 6, pp. 695–706). New York: Doubleday.

## 'Umar ibn al-Khattab

(c. 586-644 ce)

SECOND MUSLIM CALIPH

ne of the Companions of the Prophet—and the Prophet's father-in-law—'Umar ibn al-Khattab ruled from 634 CE to 644 CE as the second of the four Rashidun (Arabic: "rightly guided"), or universally acknowledged, caliphs. After Muhammad, he is one of the principle personalities of Islam, having presided over a crucial era in Islam's political and doctrinal formation, playing a role analogous in many ways to that of Saint Paul in Christianity.

An early convert to Islam, 'Umar took part in the Hejira of 622 CE that marked the establishment of the first Muslim community at Medina. Becoming caliph following

the death of Abu Bakr, (c. 573-634 CE; reigned 632-634 CE) and assuming the title of commander of the faithful, he governed the Arabs during their most dramatic period of military expansion, which included the conquests of southern Iraq (from 635 CE), Palestine (638 CE), Syria (637 CE), Western Iran (from 641 CE), Egypt (642 CE) and Libya (643 CE). Among the many important administrative developments credited to his reign are the first codification of Islamic law, the devising of the Islamic calendar, and the establishment of the office of the Islamic magistrate) and of the registry of the Muslims of Medina and Arab soldiers, among whom the booty from the conquests and the tribute that they generated were to be formally shared out. Allotments were based on one's tribal pedigree and the length of one's family's association with Islam. As much a system of control as reward, it was intended to maintain the cohesiveness and distinctiveness of Arab identity in the face of geographic dispersal, a tendency manifest also in 'Umar's policy of establishing Arab-only garrison towns in conquered areas to prevent religious and cultural contamination by the conquered peoples.

He is most famous among non-Muslims for the socalled "Pact of 'Umar," which is held to mark the first formal elaboration of the protection extended in principle to all conquered peoples who were adherents of revealed religions. The designation "People of the Book" originally applied only to Christians and Jews, but was soon extended to include Zoroastrians, eventually Buddhists, and in some cases members of other religions in accord with the necessities of governance. The origin of the pact is said to be negotiations that 'Umar carried out with the people of Jerusalem sometime between 636 CE and 638 CE, around the time of their surrender. The Islamic conception of the city as an holy site was coalescing at this time. 'Umar is said to have entered messiahlike on a donkey; he eschewed an offer to pray in the Church of the Holy Sepulchre on the grounds that Muslims would later demand it be destroyed to make way for a mosque. Indeed, the spot nearby where he is said to have praved is the site of the present Mosque of 'Umar.

By allowing non-Muslims wide liberties and permitting them to continue to administer the conquered lands, 'Umar confronted two serious challenges to instability resulting from the incredible pace of the conquests and the paucity of Arab military forces: namely, the potential for popular unrest and rebellion and the necessity to maintain the economic viability of the new territories. Although the various rough surrender agreements were undoubtedly negotiated ad hoc by local commanders, ninth-century and later Islamic jurists conceived of an elaborate and standardized pact, which they then attributed back to 'Umar himself. In a less tolerant vein, 'Umar originated the policy that the Arabian peninsula itself should be inhabited solely by Muslims, and Christians and Jews were expelled. His attitude to gender role was also famously inflexible and many of the more restrictive Islamic traditions in this regard can be traced to his influence.

'Umar was choleric and uncompromising, his formidable character and famous ill-temper stifling opposition. In the finest Machiavellian style, he played off potentially dissenting elements among the Companions of the Prophet and the tribal leaders, depending as much as he could on officials and lieutenants of his own making, all the while supporting the power of the Meccan elite, particularly the future caliphal family, the Umayyads.

On 3 November 644 CE 'Umar was murdered by a Christian slave belonging to the governor of Basra (in southern Iraq), who was apparently distraught at having failed to negotiate fiscal concessions from the caliph. After his death, the Meccan elite continued to dominate the caliphate, electing another of their group, 'Uthman ibn 'Affan, as successor—a fact that would exacerbate divisions in Islam between the Syrian-Meccan faction and the Iraqi faction, which tended to support the claims of 'Ali (c. 600–661 CE), the fourth caliph.

'Umar is intensely revered and romanticized, particularly by Sunni Muslims. Famous for the strength of his convictions and unwavering rigor, he is considered by many to be the originator of many of Islam's more proscriptive ordinances and attitudes.

Brian A. Catlos

War does not determine who is right—only who is left. • Bertrand Russell (1872–1970)

#### **Further Reading**

Busse, H. (1984). Omar b. al-Khattab in Jerusalem. *Jerusalem Studies in Arabic and Islam*, 5, 73–119.

Crone, P., & Hinds, M. (1986). God's caliph: Religious authority in the first centuries of Islam. Cambridge, UK: Cambridge University Press. Donner, F. M. (1981). The early Islamic conquests. Princeton, NJ: Princeton University Press.

Madelung, W. (1997). The succession to Muhammad: A study of the early caliphate. Cambridge, UK: Cambridge University Press.

Tabari (1989–1993). *The history of al-Tabari* (Vols. 11–14). Albany: State University of New York Press.

Tritton, A. S. (1970). The caliphs and their non-Muslim subjects: A critical study of the covenant of 'Umar. London: F. Cass.

### **United Nations**

The United Nations (U.N.) is a transnational association of countries with a mission to maintain world peace and security. The U.N. was formed by fifty nations on 26 June 1945 in San Francisco in response to the catastrophes of the two world wars. The U.N. was founded on many of the conclusions reached at the 1944 Dumbarton Oaks conference in Washington, DC, which was attended by representatives of China, the Soviet Union, the United Kingdom, and the United States.

The U.N. was created after four years of intense debate tainted by the failure of the League of Nations during the interwar period. The U.N. promised to end the dominance of feuding empires and imperialism—the results of which were the social and economic devastation of the two world wars—and to order the world based on state-hood, national sovereignty, and the stability believed to be associated with such a model. The U.N. Charter did not define the concept of the state as the Treaty of West-phalia (1648) and the Congress of Vienna (1815) had, but it granted general recognition of the concept to those outside western Europe, an action unprecedented in world politics.

We would be wrong to call the U.N. simply an international organization because it is a conglomeration of institutions, nations' domestic priorities, and individual personalities. The U.N. operates under six principal organs: the General Assembly, Security Council, Eco-

nomic and Social Council, Trusteeship Council, International Court of Justice, and Secretariat. These organs oversee fifteen agencies and programs. Nothing puts the magnitude of the U.N.'s work in perspective better than the numbers: It has twenty thousand employees from all member countries and a budget of \$2.54 billion.

#### Center of Politics

To accommodate the voices of all member countries but maintain a small body that acts in times of crises, the General Assembly and the Security Council were created in 1945 and remain at the center of U.N. politics. As of August 2004, 191 nations—all member countries—are represented in the General Assembly, which acts primarily as a deliberative body funneling research and recommendations to other organs of the U.N. The five permanent Security Council members—China, France, the Russian Federation, the United Kingdom, and the United States (those nations responsible for the defeat of Germany, Italy, and Japan in World War II)—and ten rotating members decide on plans of collective action involving all member countries, with the use of force if necessary. These members have the controversial power to block any proposal brought before the council by casting a negative vote.

While the United States and the Soviet Union battled for political ground in the Security Council during the Cold War, the General Assembly underwent a rapid transformation because of the influx of new decolonized members during the 1960s and 1970s. Previously marginalized issues were given unparalleled legitimacy on the world stage. Concrete results of this paradigm shift include the Universal Declaration of Human Rights in 1948, the establishment of the U.N. High Commissioner for Refugees in 1951, the Freedom from Hunger campaign begun in 1960, the decrease of child mortality rates around the world by 50 percent during the last forty years, and the legal recognition of commercial sea boundaries for all countries in 1994. The promotion of the needs of developing countries during the last half-century —the institutionalized effect of the U.N.'s global design -is no accident.

### Internal Displacement in Sri Lanka— A Determination to Find Solutions

Waged since 1983, Sri Lanka's civil war has resulted in about 70,000 deaths and has caused more than 750,000 people to become internally displaced, while another 700,000 have fled the country. In February 2002 the Government of Sri Lanka and the Liberation Tigers of Tamil Eelam (LTTE) signed a ceasefire agreement. Yet initial optimism that the government would initiate a quick process of resettling internally displaced persons (IDPs) was overshadowed by scepticism brought about by the many challenges in advancing the peace process.

Since the ceasefire, almost 50 percent (350,000) of displaced persons had returned home by February 2004. One-quarter of the remaining 370,000 displaced persons are living in government-provided welfare centers. According to U.N. surveys conducted in February 2004, about 210,000 IDPs currently wish to return home. Additionally, some Sri Lankan refugees living in India have begun to return, although few members of the Sri Lankan Tamil Diaspora have shown an interest in return.

In many northern districts, IDPs are unable to return to their homes because they are landless (such as in Mullaitivu and Kilinochchi) or because their homes are in a High Security Zone (HSZ) of the Sri Lankan Army or a place occupied by Security Forces (particularly in Jaffna and Kilinochchi). Many IDPs also fear the sporadic fighting in the east, which has resulted from an April 2004 split in the LTTE caused by the eastern commander known as Colonel Karuna. Violent acts by the northern and eastern factions have caused additional displacements, while encouraging IDP reluctance to return.

Displaced persons had little choice in deciding to flee their homes. Yet, as a group they continue to have few opportunities to meet their basic needs. Their overall common experience is still subject to the specificities of geographic location, ethnic background, their relationship to the local population and other factors.

In order to address the ongoing problem of displacement, the Consortium of Humanitarian Agencies (CHA) in partnership with the Brookings Institution and Johns Hopkins University's School of Advanced International Studies (SAIS) have published a Practitioner's Kit for Return, Resettlement, Rehabilitation and Development. The Practitioner's Kit was developed to assist IDPs who have decided to return or resettle, caregivers, and stakeholders seeking to promote the smooth and peaceful return or resettlement of IDPs. While the Practitioner's Kit is based on the U.N. Guiding Principles on Internal Displacement, the Kit itself has been used to transform the Guiding Principles into a call for action. This call for action encourages the fulfilment of Sri Lanka's national responsibility and works to ensure that individual and collective actions are taken to protect the rights of the internally displaced. Through this "call," the CHA, Brookings, and SAIS promote assistance to IDPs that encompasses prevention, protection, and political, economic, and social solutions. The provision of humanitarian assistance should go hand in hand with efforts to advocate for and protect the physical safety and the human rights of the affected populations. It should be accompanied by political initiatives to resolve conflicts and by plans for reintegration and development. The Call for Action is not just a response to the emergency of displacement, but a comprehensive strategy seeking to prevent the conditions that initially caused displacement in Sri Lanka.

By Rachel Brule

However, the U.N. has a mixed record on achieving what the League of Nations never could: the ability to use force to preserve international stability. Whether force is justified, implemented quickly enough, and agreed upon democratically informs much of the criticism and praise given to the U.N. Its successful roles in easing armed conflict in the Congo (1960), El Salvador (1995), and the former Yugoslavia (1999) have been praised, whereas its failures in halting the Soviet invasion of Hungary in 1956 and the more recent Cambodian (1979) and Rwandan

### United Nations Secretary General Thant on the Importance of the United Nations

As we watch the sun go down, evening after evening, through the smog across the poisoned waters of our native earth, we must ask ourselves seriously whether we really wish some future universal historian on another planet to say about us: "With all their genius and with all their skill, they ran out of foresight and air and food and water and ideas," or, "They went on playing politics until their world collapsed around them."

Source: U. Thant, United Nations Secretary General, speech, 1970.

(1994) genocides have threatened its credibility. Moreover, we cannot ignore the role that individual national interests play in the cohesion of U.N. member countries. For example, U.S. domestic politics have yielded many unilateral decisions, namely the decision not to sign the Kyoto Protocol on climate change or to ratify the Convention on the Elimination of All Forms of Discrimination against Women. The U.N.'s ability to work in the interest of all member countries has been routinely challenged.

#### Reform Needed

U.N. reform is needed in order to evaluate seriously the following questions: How can the imbalance of power between the Security Council, composed of the so-called Great Powers, and the General Assembly be remedied? At what point during a civil conflict should nonviolence mean stability and result in the exit of U.N. peacekeepers? Should the U.N. have its own military force and end its reliance on contributor countries for armed needs? How should national sovereignty be redefined in light of the genocides committed by the governments of Rwanda and Iraq and the differing international reactions that these regimes received from the international community? How can arms control be made more effective for industrialized and developing countries alike? How should the U.N. work with other transnational associations such as the North Atlantic Treaty Organization (NATO)? Can the U.N. effectively implement results-based budgeting? How will the U.N. fix its infamous bureaucratic backlog and systematic managerial problems?

The U.N. continues to be an undeniable force in world affairs. The determination of the administration of U.S. President George W. Bush to receive U.N. sanction for the 2003 Iraq War demonstrates the continued legitimacy of the organization. To be sure, the U.N.'s inability to act in the majority interests of member countries against this war also threatens how future crises will be handled. The 2004 emergency in Darfur, Sudan, called "the next Rwanda" by critics, will test the U.N.'s ability to act as an international body working, in the words of its charter, "to save succeeding generations from the scourge of war."

Gabby K. Templet

See also League of Nations

### **Further Reading**

Goodpaster, A. (1996). When diplomacy is not enough: Managing multinational military interventions: A report to the Carnegie Commission on Preventing Deadly Conflict. New York: Carnegie Corporation of New York.

Meisler, S. (1997). *United Nations: The first fifty years*. New York: Atlantic Monthly Press.

O'Neill, B. (1996). Power and satisfaction in the UN Security Council. The Journal of Conflict Resolution, 40(2), 219–237.

Roberts, A., & Kingsbury, B. (Eds.). (1993). United Nations, divided world: The UN's roles in international relations. Oxford, UK: Oxford University Press.

Wellens, K. (Ed.). (2001). Resolutions and statements of the United Nations Security Council (1946–2000): A thematic guide. New York: Kluwer Academic.

# Universe, Origins of

In all cultures that we know of, accounts of the histories of particular communities are embedded in accounts of the history of landscapes, animals, the earth, the stars, and the universe as a whole. All cultures understand that history begins with the origins of the universe.

#### Oldest Lunar Rocks

This table lists the oldest lunar rocks recovered by expeditions to the moon. Combined with similar dates obtained for rocks on earth, they help scientists determine the age of earth.

Mission	Technique	Age (in billions of years)
Apollo 17	Rb-Sr isochron	$4.55 \pm 0.1$
Apollo 17	Rb-Sr isochron	$4.60 \pm 0.1$
Apollo 17	Rb-Sr isochron	4.49
Apollo 17	Rb-Sr isochron	$4.43 \pm 0.05$
Apollo 17	Sm-Nd isochron	$4.23 \pm 0.05$
Apollo 17	Sm-Nd isochron	$4.34 \pm 0.05$
Apollo 16	40Ar/39	Ar4.47
Apollo 16	40Ar/39	Ar4.42
Source: Evolution-Dating Methods. www.origins.tv/darwin/datingmethods.htm		

To understand what we are and where we have come from, we need to understand the history of the entire universe. Cosmologies offer the largest possible framework within which to think about our place in time and space.

### **Traditional Origin Stories**

On the surface, origin stories often seem utterly different from each other. But all are attempts to grapple with the same fundamental questions. At the very beginning, they have to explain how something can come out of nothing. Some origin stories (including the Genesis story) claim that a god or gods created the universe and ignore the nagging question of how the gods were created. Many origin stories begin with a sort of nothingness out of which something appears without any clear explanation of how and why. In this way they confront the most basic duality of all: between nothing and something. Many origin stories posit an initial state of chaos that is not quite existence and not quite nonexistence; then, out of this state arise both existence and nonexistence. Often, this mysterious process is compared to sexual reproduction, another strange form of creation in which the coming together of two people creates a third person. Robert Graves summarizes an ancient Greek myth in which chaos is at the beginning, and is in some sense the creator and ground of reality. This short extract illustrates how origin stories use richly symbolic narratives to deal with problems that still challenge us today.

In the beginning, Eurynome, the Goddess of All Things, rose naked from Chaos, but found nothing substantial for her feet to rest upon, and therefore divided the sea from the sky, dancing lonely upon its waves. She danced towards the south, and the wind set in motion behind her seemed something new and apart with which to begin a work of creation. Wheeling about, she caught hold of this north wind, rubbed it between her hands, and behold! The great serpent Ophion. Eurynome danced to warm herself, wildly and more wildly, until Ophion, grown lustful, coiled about those divine limbs and was moved to couple with her. Now, the North Wind, who is also called Boreas, fertilizes: which is why mares often turn their hind-quarters to the wind and breed foals without aid of a stallion. So Eurynome was likewise got with child. Next she assumed the form of a dove, brooding on the waves and in due process of time, laid the Universal Egg. At her bidding, Ophion coiled seven times about this egg, until it hatched and split in two. Out tumbled all the things that exist, her children: sun, moon, planets, stars, the earth with its mountains and rivers, its trees, herbs and living creatures. (Sproul 1991, 157)

As this story suggests, once they have explained the origins of the universe, origin stories face many other complex questions: Can they explain the great variety and complexity of our universe? Which things came first, and which came later? Was there always conflict between different parts of the universe, or was the universe once a place of harmony? A Californian creation myth from the Cupeno tribe offers its own symbolic answers to these questions: "In the Beginning all was dark and void. A bag hung in space. In time it opened out into two halves. From one half came coyote (isil), from the other came wild cat (tukut). They immediately fell to arguing as to which was older" (Sproul 1991, 242). Primeval chaos, gods, fertilized eggs, sexuality, and a primordial division into two—these elements weave their way through many traditional creation myths.

#### Early Scientific Theories

Modern scientific origin stories face the same questions and paradoxes, but they try to deal with them without supposing the existence of gods or even of intentionality. Can the origins of everything be explained purely by the operation of blind natural laws? The question remains open even today for, despite the spectacular achievements of modern cosmology, we still don't know how best to explain the moment of the universe's origin. The origin myths of medieval Europe, from which modern cosmology evolved, described how God created a universe whose shape and movements could be described rationally within the cosmological models of the Egyptian astronomer Ptolemy (2nd century CE). In Ptolemy's system, the earth lay at the center of the universe, surrounded by a series of transparent, revolving spheres to which were attached the planets, the sun, and the stars. Ptolemy's model worked extremely well for a long time, and proved quite accurate at predicting astronomical phenomena such as the movements of planets and stars. However, in sixteenth- and seventeenth-century Europe, it was supplanted by other models. The Polish astronomer Nicolaus Copernicus (1473–1533) argued that the earth and planets revolved around the sun, while the Italian philosopher Giordano Bruno (1548-1600) argued that many of the stars were themselves suns, each perhaps with its own solar system. The new models generated during the early years of modern astronomy envisaged a universe much larger than Ptolemy's, in which the place of the earth and human beings became increasingly insignificant. By the end of the seventeenth century, many accepted that the universe might be both eternal and infinite.

#### An Expanding Universe

The idea of an eternal universe created new problems. The astronomer Johannes Kepler (1571–1630) pointed out that in an infinite universe there ought to be an infinite number of stars and an infinite amount of light pouring down on the earth both by day and by night. The development of the theory of thermodynamics in the nineteenth century suggested another problem: in an infinitely old universe all useful energy ought to have dissipated into heat, leaving no free energy to create or sustain complex objects such as stars, planets, and living beings.

Solutions to these problems, along with a new view of the universe itself, emerged early in the twentieth century. Studies of the structure of the universe revealed, first, that it consisted of many galaxies, not just the Milky Way, for many remote objects turned out to be galaxies in their own right. Then, in the late 1920s, Edwin Hubble (1889–1953) used the Mount Wilson telescope outside of Los Angeles to show that most distant galaxies seemed to be moving away from earthbound observers. Technically, he found that the light from distant galaxies was "red-shifted," or moved to lower frequencies, which seemed to be the result of a Doppler shift. (The same effect accounts for the drop in pitch of a siren as an ambulance moves away from us.) Even more astonishingly, he found that the farther away they were, the more "redshifted" their light was, and the faster they seemed to be moving away from the earth. Assuming that the earth's position in the universe is not in any way special, so that observers elsewhere in the universe must be seeing the same thing, Hubble concluded that the entire universe must be expanding. If it was expanding now, it followed that it must have been smaller in the past, and that at



The one who walks the way of truth creates life. • Sumerian Proverb

some time in the past, it must have been infinitely small. Hubble's observations might have seemed little more than a curiosity if it had not been for the fact that Albert Einstein (1879–1955), in his General Theory of Relativity (1916), had also posited that the universe might be either expanding or contracting. At first, Einstein resisted this conclusion, but by the late 1920s, he had been persuaded by the work of a young Russian mathematician, Alexander Friedmann (1888–1925) that the universe, like a pin standing on end, was unlikely to be entirely stable. In reality, it was much more likely to be either expanding or contracting, and Hubble's evidence suggested it was expanding.

#### The Big Bang Theory

Despite both observational and theoretical findings, the idea of an expanding universe remained little more than an intriguing hypothesis until after the Second World War. Theorists such as the Russian-American physicist and astronomer Arthur Gamow (1904-1968) and the British astronomer Fred Hoyle (1915–2001) worked on the implications of an expanding universe and found that it was possible to construct a surprisingly coherent picture of how matter might have behaved under the extreme heat and pressure at the very beginning of the universe's history. Nevertheless, for a time, the big bang theory had to compete with an alternative theory, the socalled steady state theory, developed by Hoyle and others in the 1950s. (Indeed, it was Hoyle, one of the fiercest critics of the big bang theory, who coined the phrase "big bang," in a lecture in 1950.) In an attempt to preserve the idea of an eternal, and essentially unchanging, universe, the steady state theory suggested that matter was continually being created throughout the universe at just the rate needed to counteract the apparent rate of expansion. The steady state theory implied that the universe had always been much as it is today, a hypothesis that was soon tested. By the early 1960s, improvements in radio astronomy enabled astronomers to make more careful studies of remote galaxies. Because light takes a finite time to travel, such studies were, in effect, examining the universe in its youth, and what soon became apparent was that the early universe was very different from the universe of today. Clearly, the universe had changed over time, as the big bang theory implied.

Even more important was the discovery, in 1965, of cosmic background radiation, by two American scientists, Arno Penzias (b. 1933) and Robert Wilson (b. 1936). In trying to construct an extremely sensitive radio antenna, they found a persistent hum of weak energy coming from all directions in space. Energy coming from a particular place in space made sense, but they could imagine no force that could generate energy from all parts of the universe, until someone told them that this was exactly what the big bang theory predicted. Attempts to model the early history of the universe had suggested that as the universe cooled there would come a point when protons and electrons could combine to form atoms. Atoms, unlike naked protons and electrons, are electrically neutral, so as atoms formed most of the matter in the universe lost its electric charge. At that point, matter and energy would in effect become disentangled, and energy would be free for the first time to travel at will through the universe. Early big bang theorists had suggested that this sudden release of energy ought to be observable even today, and it was soon clear that this was exactly what Penzias and Wilson had detected. The steady state theory had no explanation for cosmic background radiation, but the big bang theory seemed to explain it naturally. The discovery of cosmic background radiation was a knockout blow to the steady state theory; ever since, the big bang theory has provided the core idea, or paradigm, of modern cosmology.

### **Big Bang Cosmology**

Working out the details of big bang cosmology remains a complex task, but no other theory comes close to explaining as much, so few cosmologists doubt that it is essentially right, even if some of its details may need to be modified in the future. One reason for this confidence is that new evidence for the theory has emerged since the 1960s. As the power of telescopes has increased, astronomers have found that the most remote parts of the universe are indeed very different from those closest to us, and those differences fit very well with what big bang cos-

mology suggests about the nature of the early universe. Measurements of the age of materials in the solar system have also failed to come up with anything more than about 13 billion years old, which corresponds to the most recent estimates of the age of the universe. Furthermore, big bang theories suggest that most of the matter in the early universe would have consisted of hydrogen and helium, with other elements being created within stars or in the violent explosions of giant stars known as supernovae. This is consistent with what we observe: Almost three-quarters of all atoms are hydrogen, almost one-quarter are helium, and the rest include all other elements.

In its general outlines, the origin story of big bang cosmology is simple, even though many of its details are too complex to be understood by any but physicists and cosmologists. The most recent estimates of the speed of

expansion of the universe suggest that the universe appeared about 13.7 billion years ago. Before that time we have no idea what there was. We don't even know if time and space existed, and the conventional wisdom is that they, along with energy and matter, were probably created at the moment of the big bang. We also have no idea why the big bang occurred when it did. Modern science is as powerless as traditional creation stories to explain the moment of origin. But from a tiny fraction of a second after the appearance of the universe we can describe what happened with great precision. Something appeared within the primordial emptiness. This early universe was almost infinitely small, and almost infinitely hot. At temperatures of billions of degrees, time, space, energy, and matter would hardly have been distinguishable. The pressure of this concentrated energy drove the early universe apart; indeed, for a moment within the first



A grazing encounter between two Spiral Galaxies captured by the Hubble telescope.

second of its existence, the universe expanded faster than the speed of light. From the size of an atom it blew up to many times the size of our solar system. Soon after this phase of rapid expansion (known as "inflation"), particles of matter and antimatter collided and annihilated each other, leaving a huge amount of energy and a tiny residue of matter. As the universe expanded, it cooled, and as it cooled different forms of energy and matter separated out from the initial flux. Gravity appeared, then electromagnetism, together with the strong and weak forces that shape the behavior of atomic nuclei. Quarks appeared and, within two or three minutes, the first protons and electrons.

For almost 400,000 years, the universe was still too hot for protons and electrons to combine into atoms, so that the entire universe crackled with electrical energy. Then, about 380,000 years after the big bang, the universe cooled sufficiently for protons and electrons to come together to form the first atoms, of hydrogen and helium. Matter became electrically neutral, and energy and matter went their separate ways, releasing the flash of energy that is detected today as cosmic background radiation. The next significant event occurred some 200 million years after the big bang, when clouds of hydrogen and helium began to collapse, drawn together by gravity, until their centers heated up to about 10 million° C. At that point hydrogen atoms started fusing to form helium atoms, releasing a colossal amount of energy in the process (in nuclear reactions identical to those within a hydrogen bomb). The first stars were born. The release of energy at the center of a star checks the gravitational collapse of the cloud of matter from which it is formed and creates a more or less stable structure that can pump out huge amounts of energy for billions of years. Stars play a vital role within the modern creation story because they supply the energy that sustains life on earth. Furthermore, in their dying stages some of them, particularly the very largest, can generate temperatures high enough to fuse nuclei together into more and more complicated elements. When the very largest stars die in violent explosions known as supernovae, all the remaining elements of the periodic table are created. It is from these elements that newer and more complex structures, such as planets and living organisms, can eventually be constructed, using the energy of gravity and the heat energy pouring out of stars.

Is this story true? It is by far the best story available at present, but it is far from complete. Cosmologists wrestle with the problem of the very earliest moments, frustrated that they seem to have no way of even testing hypotheses about the moment of origin. And even the tiny fraction of a second after the beginning of the universe presents some complex puzzles. Above all, physicists and cosmologists wrestle with the problem of the relationship between gravity and the other fundamental forces of modern physics. The relationship between electromagnetism and the "strong" and "weak" nuclear forces is now largely understood, but how gravity fits in remains unclear. New observational techniques (including the use of satellite-based observatories) and new computational techniques have generated a mass of new data about the early universe, and some of this torrent of new information has forced cosmologists to rethink parts of the story. In the late 1990s, for example, evidence from the study of very remote galaxies showed that the rate of expansion of the universe is not slowing under the gravitational pull of the matter in the universe, as most cosmologists had assumed. On the contrary, it is speeding up. What this means remains uncertain, though most cosmologists believe it may be evidence for the existence of an antigravitational force that had already been anticipated in some of Einstein's work. Even more disturbing is the slow realization, from studies of the movement of galaxies, that there exists a lot more "stuff" out there than we can detect. Currently, it seems likely that the matter we can observe accounts for no more than about 5 percent of the mass of the universe, while some 25 percent of its mass probably consists of matter (known, appropriately, as "dark matter") that we cannot yet detect or explain, and perhaps as much as 70 percent is accounted for by forms of energy (known as "dark energy") that we cannot yet detect or fully explain. To be uncertain about almost 95 percent of the contents of the universe is a serious embarrassment to modern cosmology.

Like traditional creation stories, the modern account of the origins of the universe remains a work in progress. But unlike those stories, the modern story of the origins of everything rests on a colossal body of carefully tested information and is powerful enough to have achieved the respect of scientists not just within a single culture, but throughout the world. It is the first account of the origins of the universe to have achieved near universal respect.

David Christian

See also Creation Myths

## **Further Reading**

Chaisson, E. (2001). Cosmic evolution: The rise of complexity in nature. Cambridge, MA: Harvard University Press.

Christian, D. (2004). Maps of time: An introduction to big history. Berkeley: University of California Press.

Croswell, K. (1996). The alchemy of the heavens. Oxford, UK: Oxford University Press.

Delsemme, A. (1998). Our cosmic origins: From the big bang to the emergence of life and intelligence. Cambridge, UK: Cambridge University Press.

Ferris, T. (1988). Coming of age in the Milky Way. New York: William Morrow.

Ferris, T. (1997). The whole shebang: A state-of-the-universe(s) report. New York: Simon and Schuster.

Hawking, S. (1988). A brief history of time: From the big bang to black holes. New York: Bantam.

Smolin, L. (1998). Life of the cosmos. London: Phoenix.

Sproul, B. (1991). Primal myths: Creation myths around the world. San Francisco: HarperCollins.

Weinberg, S. (1993). The first three minutes: A modern view of the origin of the universe (2nd ed.). London: Flamingo.

# **Urban II**

(c. 1035-1099)

Roman Catholic pope and reformer

Pope Urban II, also known as Otho (Otto, Odo, Eudes) of Lagery, was a French-born church reformer and summoner of the First Crusade who is considered to be one of the most influential popes in the history of the Roman Catholic Church and in European history.

Otho of Lagery studied at Reims under Bruno of Hartenfaust, who would later go on to found the Carthusian Order and be canonized as St. Bruno. After retirement at Cluny, Otho was sent to Rome to aid Pope Gregory VII in his efforts to reform the church and eventually became the pope's chief adviser. During his years in various church positions, Otho filled numerous vacant church offices with clerics faithful to Pope Gregory VII and removed those whom the pontiff had condemned. Otho became one of the most prominent and active supporters of the Gregorian reforms, especially during his term as legate in Germany. Otho was also among the select few whom Gregory VII had previously nominated as possible successors.

At a conference of Gregorian bishops at Terracina in 1088, Otho was elected pope to replace the recently deceased Victor III. After his election, Otho chose the papal name of Urban II. From the outset of his papacy, Urban II adhered to the reform efforts of Gregory VII and publicly declared his intention of following the policies set forth by his predecessor. In the same manner as his mentor, Gregory VII, Urban II was met with a storm of opposition. He was opposed not only by laymen but by the clergy, especially by the bishops. The pope would also have been distracted by battles against the Holy Roman Emperor Henry IV and his imperial pope Clement III over whether the imperial or the papal power was to be supreme in Christian Europe. Still in the midst of the Investiture Controversy, Urban II was unable to enter Rome until 1093 due to the presence of the antipope Clement III (Guibert of Ravenna) and the actions of the Holy Roman Emperor Henry IV.

Urban II utilized the conciliar method of church leadership, holding significant councils at Piacenza (1095), Clermont (1095), Rome (1097), Bari (1098), and Rome (1099). At Piacenza the pope approached the subject of the Crusades, after receiving a request for assistance from the Eastern Emperor, Alexius I. The more important council was that at Clermont, where Urban II began by reiterating the decrees of Gregory VII against simony, investiture, and clerical marriage. The matter of Constantinople and Jerusalem was also discussed, and a



# Urbanization

Trbanization is a process of population concentration. It involves not merely the increasing numbers, size, and density of urban settlements; it is the source of the new opportunities, attitudes, and lifestyles that transform entire societies as they diffuse to smaller places and rural regions and stimulate the streams of migration that produce further rounds of urban growth. Urbanization is thus not merely a spatial process; it is the vital engine of economic development and cultural change.

#### Classical Beginnings

There were several independent beginnings. Primary urban generation occurred in a number of areas widely separated in both time and space: lower Mesopotamia at least 5,000 years ago, the Indus valley 4,500 years ago, the north China plain at least 3,000 years ago, Mesoamerica more than 2,500 years ago, the central Andes and Peruvian coast 2,000 years ago (although recent evidence places the age of the pyramids at Caral at 4,600 years), and the Yoruba territories in West Africa and incipiently in Zimbabwe 500 years ago. Diffusion from already-urbanized societies also stimulated the rise of cities in a number of other areas: Korea and Japan, the Indian Deccan, southwest Asia and the eastern Mediterranean, and the western Mediterranean and Europe. Whether or not the megalithic complexes of Atlantic Europe served as population concentration nuclei or were freestanding ceremonial sites four and five millennia ago is still a matter of debate.

The characteristic sequence of cultural evolution began with domestication of plants and animals and the emergence of class-based societies, followed by the formation of military and religious elites who gathered clans into states and used their power to extract surpluses from village agriculturalists. In such states there developed hierarchies of specialized institutions that exercised authority over territory and maintained order within their populations. At the core of these states were monumental complexes, the focal

decision was made to send an army to rescue Jerusalem and the Catholic churches in the East from the Muslim Turks. In his sermon at Clermont, Urban II concluded his remarks with the phrase "Deus vult!" (God wills it!). This slogan would later become the battle cry of the crusader.

Urban II's initiation of the crusade movement is significant in world history. The various crusades provided the mechanisms for reopening the trade routes that united the civilizations of Europe and the Orient. Through these routes many things flowed: paper, the compass, medicines, spices, crops, cultural advances, and gunpowder. The First Crusade was successful in that Jerusalem fell to the crusaders in 1099. Urban II died on 29 July 1099, fourteen days after the recapture of Jerusalem by the Christian crusaders. Ironically, the pope's death occurred before news of the event had reached Italy.

Although the First Crusade was a military success, some of the consequences were not anticipated by the Byzantine emperor, Alexus I. Instead of restoring Byzantine territories to eastern Catholic rule, the Roman Catholic conquerors established four independent Latin kingdoms. In addition, the Hospitallers, Templars, and Teutonic Knights came into power as religious military orders, with the stated purpose of protecting the pilgrims and holy sites.

The remains of Urban II were interred in the crypt of St. Peter's, close to the tomb of Adrian I. Clearly, without the efforts of Urban II, most of the Gregorian reforms would not have succeeded. Urban II was beatified by Pope Leo XIII in 1881.

H. Micheal Tarver and Carlos E. Márquez

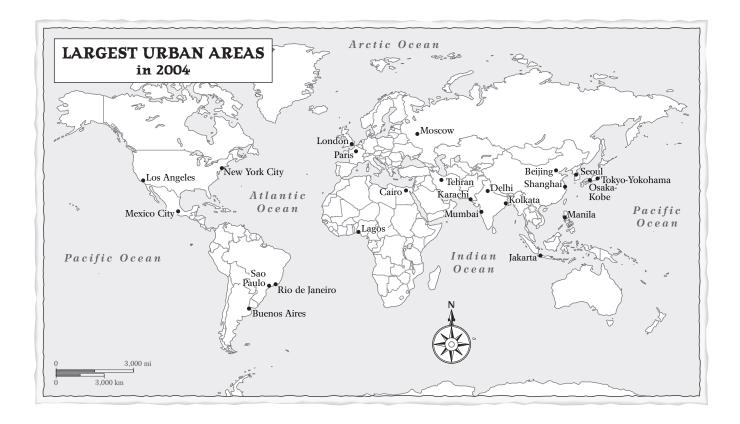
See also Catholicism, Roman

### **Further Reading**

Coppa, F. J. (1999). Encyclopedia of the Vatican and papacy. Westport, CT: Greenwood Press.

Cowdrey, H. E. J. (2000). Popes and church reform in the 11th century. Burlington, VT: Ashgate.

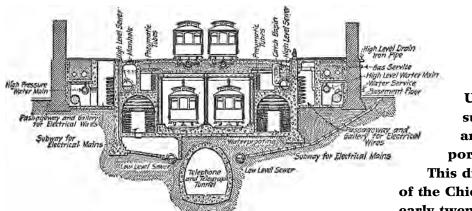
Levillain, P. (2002). The papacy: An encyclopedia. New York: Routledge. Somerville, R. (1972). The councils of Urban II. Amsterdam: Hakkert.



points around which capital cities evolved and the axes mundi at which leaders could maintain contact with the gods. Frequently, both the ceremonial complexes and the cities that surrounded them were designed as miniatures of the cosmos, in which the appropriate rituals could be performed to ensure that stability and harmony prevailed. Astronomy thus was important not merely for timekeeping and the regulation of the rhythms of agriculture; it was central to the physical plans. The social geography of the cities was predominantly centripetal: the higher the status, the closer a resident lived to the center, but the urban fabric also contained walled "quarters" that separated tribe and clan. The specialists who first emerged as temple and palace functionaries later evolved into producers for the market. Similarly, the merchants who conducted longdistance trade evolved from the networks of tribute that had been secured by military action.

Most classical capital cities were small and compact, yet they were many times greater than other settlements in their domains. Levels of urbanization—the percentage of the population living in urban areas—never exceeded 10 percent. Secondary centers were few and small and the bulk of the urban population clustered in the capital city. This pattern of capital city primacy prevailed until very recently. Only three hundred years ago there were probably no more than fourteen cities in the world with populations exceeding 200,000 (in imperial China, Beijing 650,000, Hangzhou 300,000, Guangzhou 200,000; in feudal Japan, Tokyo [earlier Edo or Yedo] 680,000, Osaka 380,000, and Kyoto 350,000; in the Moghul empire, Ahmadabad 380,000 and Aurangabad 200,000; in Iran [then Persia], Esfahan 350,000; in the Ottoman empire, Istanbul [then Constantinople] 700,000; and in Europe, London and Paris both over 500,000 and Amsterdam and Naples both just over 200,000). No more than fifty other cities exceeded 50,000.

Despite their small size, however, each of these capital cities served as the focus of its own "world economy," an economically autonomous section of the planet able to provide for most of its own needs. Such economies comprised an immediate core region that provided foodstuffs and within which modification of the earth was greatest, a modestly developed *middle zone* controlled by the projection of the capital city's military power and exploited for transportable resources and products, and a vast and relatively untouched periphery that ensured separation from other worlds, except where long-distance merchants made contact at trading centers located where the peripheries touched.



Underground railroads, or subways, have proven to be an efficient means of transportation in crowded cities.

This diagram is a cross-section of the Chicago subway system in the early twentieth century.

#### The First Break

The first break with classical urban patterns that raised the level of urbanization above 10 percent came in the Low Countries of Europe in the seventeenth century. Exploiting new maritime technology—deep-bellied cargo vessels that significantly changed seagoing goods-carrying capacity and costs—a mercantile center, Amsterdam, became the warehouse of the world. In the United Provinces, the middle zone of what later became the Netherlands, urbanization levels rose to more than 30 percent, and a high degree of market-based specialization in cash crops developed for urban consumers and industrial markets. The closer to Amsterdam, the greater the degree of cash-crop specialization and the greater the extent of environmental modification. The further from the United Provinces. the more likely it was that regions were still composed of self-sustaining feudal villages. As urban demands increased, ingenious methods of crop rotation were developed to raise productivity and new technologies enabled cultivable polders to be created by draining swampland. As important, a new spirit of middle-class Protestantism linked to capitalism was fostered, carrying with it ideas of humans' dominion over nature and the godliness of engaging in production and trade for profit.

#### The Second Break

Change in the Low Countries was followed by a second break in eighteenth-century Britain as that country's navy and trading companies helped build a global empire and a new class of merchant entrepreneurs emerged. The English share of European urban growth had been 33 percent in the seventeenth century, but was over 70 percent in the eighteenth century, much of it concentrated in London, by now Europe's largest city. London's demand for

food radically changed the agricultures of the English core. Dutch engineers were enlisted to bring their technologies to England and facilitated the drainage and settlement of the East Anglian Fens while the import of the "Belgian system" of crop rotation made possible the cultivation of the nation's sandy wastelands. The great city's demand for fuel led to rapid expansion of coal mining and coastal shipping. Britain's urbanization level reached 30 percent by 1800, but in the rest of the world there was little change from 1700. The number of cities with populations greater than 500,000 increased only from five to six and the number of places exceeding 100,000 from thirty-five to fifty. Within the European nations' expanding colonial empires predominantly rural societies were controlled from small numbers of modestly sized coastal centers that were organized around their ports, docks, and warehouses.

#### **Enter Industrialization**

By 1800, the new forces that were at work were to radically rewrite the world map of urbanization. In Britain, urban growth was already accelerating outside London, with the main burst of expansion in Manchester, Liverpool, Birmingham, and Glasgow, plus a second echelon of urban areas in the 20,000-to-50,000 range that included Leeds, Sheffield, Newcastle, Stoke, and Wolverhampton. The precipitating factors were technological advances in the cotton and iron industries, the first flush of factory building, and significant improvements in inland transportation with the construction of a canal network. The new urban centers were either mill towns in which the workers resided within walking distance of the factory, specialized manufacturing cities such as Birmingham, or centers of control and finance like Manchester.

## Selection from Lewis Mumford's The City in History

We must now conceive the city accordingly, not primarily as a place of business or government, but as an essential organ for expressing and actualizing the new human personality—that of "One World Man." The old separation of man and nature, of townsman and countryman, of Greek and barbarian, of citizen and foreigner, can no longer be maintained: for communication, the entire planet is becoming a village; and as a result, the smallest neighborhood or precinct must be planned as a working model of the larger world. Now it is not the will of a single deified ruler, but the individual and corporate will of its citizens, aiming at self-knowledge, self-government, and self-actualization, that must be embodied in the city. Not industry but education will be the center of their activities; and every process and function will be evaluated and approved just to the extent that it furthers human development, whilst the city itself provides a vivid theater for the spontaneous encounters and challenges and embraces of daily life.

Source: Mumford, L. (1961). The city in history (p. 573). New York: Harcourt,

Demand for labor was fed by rural-to-urban migration as feudal villages were reshaped by enclosures that released surplus labor to the towns.

Subsequent bursts of technological change built on this first surge of industrial revolution to create a new kind of city that was built on productive power, massed population, and industrial technology. By the end of the century, this new city has been credited with the creation of a system of social life founded on entirely new principles. By 1900, the level of urbanization had reached 80 percent in Britain, exceeded 60 percent in the Netherlands and newly industrializing Germany, reached 50 percent in the United States, and climbed to 45 percent in France. Sixteen cities now exceeded 1 million in population, there were 287 exceeding 100,000, and the world economy had been reshaped around the great urban-industrial core regions of western Europe and the northeastern United States.

Contemporary observers recognized that something dramatic had happened. Adna Weber, the chronicler of the changes, wrote in 1899 that the most remarkable social phenomenon of the nineteenth century was the concentration of population in cities. The tendency toward concentration, he said, was all but universal in the Western world. The change involved a process whereby, as societies modernized, their market mechanisms expanded in scope and influence. The size of production units increased, as did the number and complexity of production decisions. Increased division of labor and increased specialization, the necessary concomitants of increased productivity, became forces promoting further population concentration and the shift in the occupational structure of economies from agriculture and resource extraction to factory-floor jobs and white-collar occupations. New institutions were created and old institutions were radically altered, especially the financial and market institutions that contributed to the accumulation of social and economic overhead that made further high-level productivity increases in cities possible. There were widening radii of global change as demands for food and raw materials increased and as environments were modified by the unrestricted discharge of effluents, but because of the limitations of foot and horse, the new cities grew, as H.G. Wells put it in 1902, as "puff-ball swells—dense concentrations within a limited radius of their central business districts. The combination of size, high density, and immigrant-derived heterogeneity had distinctive social consequences: greater individual freedoms and opportunities for social and economic advancement, but also inequality, alienation, and deviance.

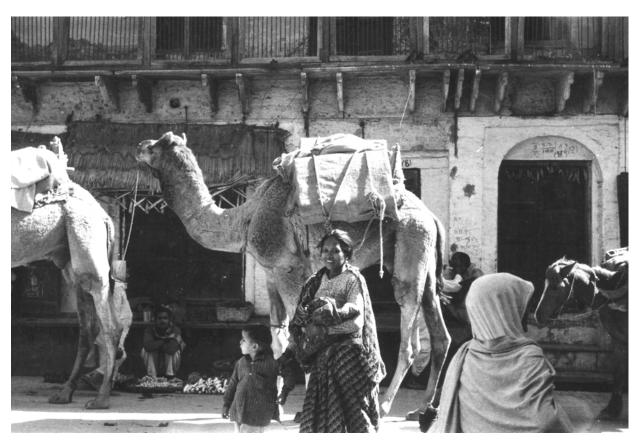
#### Twentieth-Century **Urban Growth**

During the twentieth century, the urbanization level in economically advanced nations leveled off at 80-90 percent but rapid urban growth diffused to most other parts of the world. By 2000, half the world's population lived in urban areas and virtually all population growth was occurring No honest historian can take part with—or against—the forces he has to study. To him even the extinction of the human race should be merely a fact to be grouped with other vital statistics. • Henry Brooks Adams (1838–1918)

there as rural-to-urban migration accelerated in countries beginning their process of modernization. More than eight hundred cities had populations in excess of 500,000. Of these, some four hundred exceeded 1 million, of the "millionaire" cities forty exceeded 5 million, and sixteen of these had populations of 10 million or more.

The leveling off of urbanization in the economically advanced world did not mean stasis. New technologies transformed the spatial pattern of urban growth and created new types of transnational urban networks. The concentrated industrial metropolis had developed in the nineteenth century because centrality meant lower costs for specialists who had to interact under horse-and-buggy conditions. But shortened distances meant higher densities, increased costs of congestion, high rents, loss of privacy, and mounting social problems. Virtually all the transportation and communication developments of the

twentieth century had the effect of counteracting the constraints of geographic space, making it possible for each generation to live farther apart and for information users to rely upon information sources that are spatially distant. As a result decentralization moved to the fore as the dominant spatial process restructuring urban regions, producing far-flung metropolitan areas and the emptying out of the higher-density cores: commuting radii extended more than 160 kilometers from traditional urban centers and in the most densely settled areas, overlapping urban systems combined to create polycentric "megalopolitan areas." Globally the interdependencies made possible by revolutionary new information technologies enabled increasingly specialized urban areas to link up in networks dominated by "world cities" such as New York, London, and Tokyo—centers of finance and corporate control.



A street scene in Marthura, India, where Islam and Hinduism mix.

In middle- and low-income countries, freed of colonial controls, the rush to the cities began in the 1960s and accelerated through the end of the century. The combination of low income and inadequate transportation resulted in a repetition of the West's nineteenth-century experience of mounting social problems, even as the new cities became the loci of social and economic transformation. What is notable is the difference in scale. Much of the change is occurring in significantly larger places. Of a total world urban population of 2.86 billion in 2000, 75 percent resided in developing-world cities. The new population concentrations include two-thirds of the world's 10-million-plus population megacities. The United Nations projects that by 2030 83 percent of the world's 5 billion urbanites will reside in middle- and lowincome countries in dense urban networks dominated by 25-30 megacities. We have yet to learn what the consequences will be, but they will surely be no less radical than those of the two centuries just past.

Brian J. L. Berry

See also Migrations; World Cities in History—Overview

#### Further Reading

- Bairoch, P. (1988). Cities and economic development: From the dawn of history to the present. Chicago: University of Chicago Press.
- Berry, B. J. L. (1982). Comparative urbanization: Divergent paths in the twentieth century. Basingstoke, UK: Macmillan.
- Berry, B. J. L. (1990). Urbanization. In B. L. Turner II, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Mathews, & W. B. Meyer (Eds.), The earth as transformed by human action: Global and regional changes in the biosphere over the past 300 years (pp. 103–119). Cambridge, UK: Cambridge University Press.
- Chandler, T. (1987). Four thousand years of urban growth: An historical census. Lewiston, ME: St. David's University Press.
- DeVries, J. (1981). Patterns of urbanization in preindustrial Europe: 1500–1800. In H. Schmal (Ed.), Patterns of European urbanization since 1500 (pp. 77–109). London: Croom Helm.
- Eisenstadt, S. N., & Shachar, A. (1987). Society, culture, and urbanization. Beverly Hills, CA: Sage.
- Hall, P. (1999). Cities in civilisation: Culture, innovation, and urban order. London: Phoenix Orion.
- Hall, P., & Pfeiffer, U. (2000). Urban future 21: A global agenda for twenty-first century cities. London: E. & F. N. Spon.
- Knox, P. L. (1994). *Urbanization*. Englewood Cliffs, NJ: Prentice Hall. Knox, P. L., & Taylor, P. (1995). *World cities in a world-system*. Cam-
- Montgomery, M. R., Stren, R., Cohen, B., & Reed, H. E. (Eds.). (2003).

bridge, UK: Cambridge University Press.

- Cities transformed: Demographic change and its implications in the developing world. Washington, DC: National Academies Press.
- Sassen, S. (2001). The global city (2nd ed.). Princeton, NJ: Princeton University Press.
- Scott, A. J. (2001). Global city-regions: Trends, theory, policy. New York: Oxford University Press.
- Short, J. R., & Kim, Y. H. (1999). Globalization and the city. London: Longman.
- Waller, M. (2000). 1700: Scenes from London life. London: Hodder & Stoughton.
- Weber, A. F. (1899). The growth of cities in the nineteenth century: A study in statistics. New York: Macmillan.
- Wells, H. G. (1999). Anticipations of the reaction of mechanical and scientific progress on human life and thought. New York: Dover. (Original work published 1902)
- Wheatley, P. (1971). The pivot of the four quarters. Chicago: Aldine. Wrigley, E. A. (1987). *People, cities, and wealth.* Oxford, UK: Basil Blackwell.

# Utopia

The word utopia, coined by Thomas More (1478–1535) in his political fantasy of the same name, literally means "nowhere" (from the Greek ou=no, topos= place) but has come to be applied to any fictional or actual community based on social and political idealism. Although utopias and utopianism are associated with modern Western political literature and social movements, they exist in many cultures throughout world history and might be typically characterized as literary, philosophical, or historical.

### Literary Utopias

A frequently documented fantasy in both folk and formal literatures of many different cultures across world history is that of the ideal world in which there is comfort, ease, and plenty for all. Greeks such as Hesiod (c. 800 BCE) and Romans including Virgil (70–19 BCE) and Ovid (43 BCE–?CE) imagined an early stage in human history (the golden age) in which people and gods lived together in harmony. In Arcadia Virgil imagined peasants enjoying effortless agrarian work resulting in nature's bounty. The Hebrew scriptures' book of Genesis begins with a similar original golden age in the Garden of Eden, which



The avowed aim of all utopian movements is to put an end to history and to establish a final and permanent calm. • Ludwig Von Mises (1881–1973)

most modern readers interpret symbolically but which was considered very real by medieval and Renaissance Christians who speculated about its location.

Idealized lands and kingdoms preoccupied the medieval mind. The Land of Cockaigne was a folk fantasy of a peasant's paradise into which the aristocrats or wealthy clergy would not be admitted. The Land of Prester John, documented in the travel narratives of Marco Polo (1254–1324) and John Mandeville (flourished 1356), was a product of the medieval fascination with distant lands. It is surrounded by pagan nations but ruled by a benign priest-king (so it has much in common with the philosophical utopias of Judaism and Christianity).

### Philosophical Utopias

Theorizing about the ideal human community has an ancient and diverse ancestry. In *The Republic*, Plato (c. 428 BCE–348? BCE) discussed the necessity for virtuous philosopher kings to rule over virtuous citizens. In his obscure work *Timaeus*, Plato introduced the world to the legend of Atlantis, a staple of utopian literature even today. The *Analects* of Confucius (K'ung Fu-tzu) (551 BCE–479 BCE) collects the Chinese philosopher's teachings about the right order of society in which the ruler's and people's virtue ensure stability and prosperity.

Judaism, Christianity, and Islam share common traditions relating to an ideal social order. The Torah describes a promised land flowing with milk and honey, and the prophetic literature of Judaism imagines a messianic kingdom ruled over by a virtuous, priestly king who takes care of the poor and dispenses justice. Christian scriptures similarly imagine a community of believers united under the messianic leadership of Christ. The Muslim Quran also describes an ideal social order uniting people of faith, as well as a future paradise for the just and virtuous.

During the European Renaissance, many writers examined the conditions and institutions that would produce an ideal society. Some of these texts would become the template for new experiments in communal living. The most famous of these, of course, is Thomas More's *Utopia* (1516), a fictional account of a traveler who has returned to Europe after having visited an island commonwealth where land is held in common, both men and women are educated, and there is religious tolerance. Tommaso Campanella (1568–1639) combined revolutionary and scholarly insights to write his utopian visions. His *Monarchia messiae* (Anointed King) proposes the establishment of one world ruler and one world religion. *Citta del sole* (City of the Sun) suggests that the head of the ideal city would be a priest-king, like that of the Land of Prester John. Drawing on Plato's *Timaeus* as well as More's *Utopia*, Francis Bacon (1561–1626) imagined an ideal society in *New Atlantis*; its capital, Bensalem, is organized around scientific study and its rulers are scientist-kings.

### **Historical Utopias**

Actual communities based on the principles spelled out in the literary or philosophical utopian traditions have often been attempted. Rarely outliving their visionary founders, utopian communities nonetheless introduce innovations into mainstream societies.

European colonization of the Americas was accompanied by utopian schemes that tried to implement what visionary texts merely described. English settlements in North America, in particular, imagined themselves as the "new Israel," or the "new Chosen People." Puritan Separatists (such as the Pilgrims of Plymouth Plantation) established a theocratic community, which they tried to keep pure by exiling their more wayward members, among whom were those who settled Rhode Island as a refuge for religious dissenters. Similarly, Pennsylvania as a haven for European dissenters and Maryland as a Catholic enclave endorsed the principle of religious freedom that characterized More's Utopia. The seventeenthcentury English revolution, resulting in a short-lived republic, spawned even more radical social experiments, such as the communistic Diggers and Levelers. The American Revolution may have been a rationalist project (like its protégé in France), but the early Republic became a laboratory for a variety of religious and secular utopian experiments.

## Thomas More's Utopia: Of Their Towns, Particularly of Amaurot

A frequently documented fantasy in both folk and formal literatures of many different cultures across world history is that of the ideal world in which there is comfort, ease, and plenty for all. Idealized lands and kingdoms preoccupied the medieval mind. This excerpt from Sir Thomas More's Utopia (1515) provides just such an example. Sir Thomas More (later canonized St. Thomas More) is famous for both Utopia and for his martyrdom. As Chancellor to the English King Henry VIII he refused to sanction Henry's divorce of Queen Catherine. More was imprisoned, tried, and executed.

He that knows one of their towns knows them all, they are so like one another, except where the situation makes some difference. I shall therefore describe one of them; and none is so proper as Amaurot; for as none is more eminent, all the rest yielding in precedence to this, because it is the seat of their Supreme Council, so there was none of them better known to me, I having lived five years altogether in it.

It lies upon the side of a hill, or rather a rising ground: its figure is almost square, for from the one side of it, which shoots up almost to the top of the hill, it runs down in a descent for two miles to the river Anider; but it is a little broader the other way that runs along by the bank of that river...

There is likewise another river that runs by it, which, though it is not great, yet it runs pleasantly, for it rises out of the same hill on which the town stands, and so runs down through it, and falls into the Anider. The inhabitants have fortified the fountain-head of this river, which springs a little without the town; so that if they should happen to be besieged, the enemy might not be able to stop or divert the course of the water, nor poison it; from thence it is carried in earthen pipes to the lower streets; and for those places of the town to which the water of that shall river cannot be conveyed, they have great cisterns for receiving the rain-water, which supplies the want of the other...

They cultivate their gardens with great care, so that they have vines, fruits, herbs, and flowers in them; and all is so well ordered, and so finely kept, that I never saw gardens anywhere that were both so fruitful and so beautiful as theirs. And this humor of ordering their gardens so well is not only kept up by the pleasure they find in it, but also by an emulation between the inhabitants of the several streets, who vie with each other; and there is indeed nothing belonging to the whole town that is both more useful and more pleasant. So that he who founded the

If the eighteenth-century American and French revolutions institutionalized political utopianism, the nineteenth century bred its most diverse intellectuals and practitioners. While some of these were religious, like the Mormons and the Shakers, many were secular, like the American Brook Farm Community (the object of Nathaniel Hawthorne's 1852 satire, The Blithedale Romance), William Morris's Arts and Crafts movement and the Fabian Socialists in England, and the French utopian socialists the Comte de Saint-Simon (1760-1825), Charles Fourier (1772–1837), and Pierre-Joseph Proudhon (1809–1865).

Preeminent among the intellectuals was Karl Marx (1818–1883), who towered above the age both for the extent of his social, historical, and economic analyses and for the breadth of his influence well into the twentieth century. Ironically, the nineteenth-century industrial societies that Marx imagined to be the most fertile ground for his ideas did not produce the kind of revolution he predicted, which occurred instead in agrarian countries like Russia, China, Korea, Vietnam, Cambodia, and Cuba in the twentieth century. Moreover, by developing Leninist and Stalinist models of government, the totalitarian regimes that succeeded these revolutions (and their fascist counterparts in Spain, Germany, and Italy) encouraged the creation of a "dystopian" literature, including Aldous Huxley's Brave New World (1932) and George Orwell's 1984 (1949).

### **Future Prospects**

Although the dominant utopian ideologies of the twentieth century were secular, the twenty-first century is town seems to have taken care of nothing more than of their gardens; for they say, the whole scheme of the town was designed at first by Utopus, but he left all that belonged to the ornament and improvement of it to be added by those that should come after him, that being too much for one man to bring to perfection. Their records, that contain the history of their town and State, are preserved with an exact care, and run backward 1,760 years. From these it appears that their houses were at first low and mean, like cottages, made of any sort of timber, and were built with mud walls and thatched with straw. But now their houses are three stories high: the fronts of them are faced with stone, plastering, or brick; and between the facings of their walls they throw in their rubbish. Their roofs are flat, and on them they lay a sort of plaster, which costs very little, and yet is so tempered that it is not apt to take fire, and yet resists the weather more than lead. They have great quantities of glass among them, with which they glaze their windows. They use also in their windows a thin linen cloth, that is so oiled or gummed that it both keeps out the wind and gives free admission to the light.

Source: More, T. (1515). *Utopia*. London and New Haven: Yale University Press. Retrieved from http://www.d-holliday.com/tmore/utopia003.htm

likely to witness more frequent attempts to establish utopian theocracies founded on religious principles. Throughout the latter twentieth century, Islamic movements in particular demonstrated a growing disenchantment with the utopian claims of Western democratic capitalism and Communist socialism. The Iranian revolution that overthrew the country's shah in 1979 and the Taliban's resistance to the Soviet presence in Afghanistan put into power Islamic republics whose laws were said to reflect the Quran and Muslim law, or sharia. The terrorist entity al-Qaeda might be more coherently understood as a militant movement following a utopian ideal.

Even in the West, many people are discontented with what they see as the deterioration of social life and the ethos of a commonwealth. Some of these will most likely take action, not through broadly based utopian political movements but by the establishment of small local intentional communities (groups formed to live a common life defined by the consensus of its members rather than by external political or religious institutions.

Thomas L. Long

### **Further Reading**

- del Giudice, L., & Porter, G. (Eds.). (2001). Imagined states: Nationalism, utopia, and longing in oral cultures. Logan: Utah State University Press.
- Ferguson, J. (1975). Utopias of the classical world. Ithaca, NY: Cornell University Press.
- Gumilev, L. N. (1988). Searches for an imaginary kingdom: The legend of the kingdom of Prester John (R. E. Smith, Trans.). Cambridge, UK: Cambridge University Press.
- Heng, G. (2003). Empire of magic: Medieval romance and the politics of cultural fantasy. New York: Columbia University Press.
- Intentional communities. Retrieved March 26, 2004, from http://www.ic.org/
- Long, T. L. (2000). Utopia. In R. A Landes (Ed.), Encyclopedia of millennialism and millennial movements (pp. 420–425). New York: Routledge.
- Manuel, F. E., & Manuel, F. P. (Eds.). (1979). *Utopian thought in the west-ern world*. Oxford, UK: Blackwell.
- Negley, G. (1977). *Utopian literature: A bibliography*. Lawrence: Regents Press of Kansas.
- Sargent, L. T. (1988). British and American utopian literature, 1516– 1985: An annotated, chronological bibliography. New York: Garland.
- Schaer, R., Claeys, G., & Sargent, L. T. (Eds.). (2000). Utopia: The search for the ideal society in the western world. New York: Oxford University Press.
- Silverberg, R. (1996). The realm of Prester John. Athens: Ohio University Press.
- The Society for Utopian Studies. (2003). Retrieved March 26, 2004, from http://www.utoronto.ca/utopia/
- Utopia Listserv Archives. (2004). Retrieved March 26, 2004, from http://listserv.buffalo.edu/archives/utopia-l.html
- Utopia, the search for the ideal society in the western world. (2000). Retrieved March 26, 2004, from http://utopia.nypl.org/
- Utopian Studies Society. (2000). Retrieved March 26, 2004, from http://www.utopianstudieseurope.org/





## Victoria

(1819 - 1901)

Queen of the United Kingdom of Great Britain and Ireland

Victoria reigned as queen of Great Britain and Ireland from 1837 until her death. Her empire grew to be the world's largest, including at its height 25 percent of the earth's population. In 1877 parliament conferred on her the title Empress of India. Her nine children married royalty and she became grandmother to Europe.

Victoria was born to Edward, Duke of Kent, the fourth son of George III, and Victoria, a widowed German princess of Saxe-Coburg. Her parents intended to produce an heir in an effort to have parliament make good her father's debts. After her father died before Victoria was a year old, her mother raised her strictly in preparation for her inheritance. William IV, Victoria's uncle—her father's older brother, produced no legitimate heirs and so with her father's death Victoria was next in line. Victoria slept in her mother's bedroom until she ascended to the throne. Victoria immediately asserted herself by sleeping alone and by dispensing with her mother's comptroller, who had exploited his position. Estrangement from her mother left the eighteen-year-old queen under the tutelage of her prime minister, Lord Melbourne, who instilled in his charge a strong, unquestioned sense of her central role in politics.

In 1840 she married her first cousin, Prince Albert of Saxe-Coburg-Gotha. Excluding him from governing at



first, she came to worship Albert and gradually made him de facto co-regent. Between 1840 and 1857, they produced Victoria, Edward, Alice, Alfred, Helena, Louise, Arthur, Leopold, and Beatrice; they made every effort to create a model family, teaching duty, hard work, chastity, and sobriety. The family moved among homes at Windsor Castle, Balmoral in Scotland's Highlands, and a new house designed by Albert on the Isle of Wight (Osborne). Named prince consort by his wife in 1857, Albert along with Victoria played a key role in the confused coalitions that governed after Robert Peel destroyed the Tory Party to give Britain free trade. Victoria found her preferred role as a warrior queen during the Crimean War (1854–1856), seeing off the troops, visiting the wounded, and establishing the Victoria Cross for bravery in 1856.

Albert died of typhoid in 1861, leaving Victoria distraught and causing her to withdraw from public appearances—except to review her troops. She built memorials to Albert and had servants lay out a fresh suit of clothes in his room each evening for forty years. In private she allowed John Brown, Albert's Scottish servant, to serve as her comfort until his death. The Conservative prime minister, Benjamin Disraeli, wooed the queen from her grieving isolation and restored her popularity by making her the symbol of the British empire. Supplying her with political gossip and cabinet secrets, he converted her into an ardent, partisan Conservative. She despised William E. Gladstone, leader of the Liberal Party, and his plan to give Ireland home rule. She exhibited dismay when Gladstone's government failed to rescue "Chinese" Charles Gordon from Khartoum and approved heartily when General Horatio Herbert Kitchener defeated the Mahdists at Omdurman, Sudan, in 1898. Once she possessed a territory, she never wanted to part with it, believing that any people profited from her rule.

In 1887 Victoria celebrated her golden jubilee as a European monarch with relatives and rulers from across Europe parading through London's streets dressed in elaborate military uniforms. Victoria excluded the heads of Europe from her diamond jubilee in 1897 to invite the rulers of her dominions and colonies, turning the ceremony into a celebration of the empire's diversity and might. However, the Boer War clouded her final years. Her grandson, William II, Emperor of Germany, favored her enemy and the conflict strained the resources of the empire.

Victoria adopted an Indian Muslim servant, Abdul Karim, as her favorite, demonstrating her "liberal" views on religion and "race." Though she personally preferred the Scottish Presbyterian service, Victoria constantly strove for tolerance. She valued her relations with all her subjects, caring deeply for her servants and comforting widows of all classes. She displayed a feel for the public mind. Although she considered herself a constitutional monarch and favored free trade, she had her prime ministers write her each day reporting all significant affairs and never hesitated to intervene when she felt it necessary. She named the Liberal Lord Rosebery prime minister in 1894 because he was a safe imperialist. She influenced the appointment of cabinet ministers and sometimes conspired to elect Conservatives. Though she gave her name to an era popularly known for its prudishness, she forgave drunkenness and other human foibles in those

The important thing is not what they think of me.

But what I think of them. • QUEEN VICTORIA

(1819-1901)

whom she loved. When she died at Osborne in 1901, the world recognized it was the end of an era.

Dennis J. Mitchell

See also British Empire

#### **Further Reading**

Arnstein, W. L. (2003). *Queen Victoria*. New York: Palgrave Macmillan. De-la-Noy, M. (2003). *Queen Victoria at home*. New York: Carroll & Garf. Duff, D. (Ed.). (1997). *Queen Victoria's highland journals*. London: Hamlyn.

Strachey, L. (1921). *Queen Victoria*. New York: Harcourt, Brace. Weintraub, S. (1987). *Queen Victoria*: An intimate biography. New York: Dutton.

# **Viking Society**

The Vikings appeared on history's stage during the Leighth century CE. In 793 CE a group of Viking marauders from Scandinavia besieged, captured, looted, and destroyed a Christian monastery on Lindisfarne, a small island located just off the northeastern coast of England. This was the first in a long series of military incursions made by seafaring Scandinavian warriors. During the next two centuries their quest for land and wealth would take them as far west as Ireland, Iceland, Greenland, and the northern tip of the New World. They would make their presence known along the Atlantic coasts of France, Portugal, and Spain. They would also penetrate the interior of Europe via its network of rivers, eventually reaching both Baghdad, Iraq, and Constantinople (Istanbul, Turkey). Paris, York, and Dublin would experience their fury. They would also establish footholds at Novgorod and Kiev in Russia.

Scholars do not know with any degree of certainty what elicited this wave of conflict. However, like other popular migrations that have taken place throughout history, such as those that occurred in the Mediterranean basin during the twelfth century BCE and in Europe during the fifth century CE, a common stimulus tends to be a gradual (or radical) shift in weather patterns that alters the cycle of

subsistence. Consequently, scholars have postulated that a significant climatic change in northern Europe produced warmer temperatures, caused glacial recession, and led to two significant environmental anomalies—one biological, the other social. The first was a decrease in the rate of infant mortality, accompanied no doubt by a rise in the male birth rate. The second was a burgeoning population of young males who could neither be assimilated fully into economic life nor provided with sufficient means for survival given prevailing inheritance customs. This perceived lack of resources no doubt fostered an atmosphere of desperation that propelled the Vikings into Europe and the Atlantic in pursuit of conquest and profit. The derivation of the word Viking is the Old Norse word vik, meaning "inlet." Thus, the name probably refers to the Vikings' penchant for using bays, sounds, and gorges—ubiquitous along the Scandinavian coasts—as places from which to stage attacks on seagoing vessels.

Feared for their martial prowess, Viking warriors were equally adroit in military operations on sea and land. They mastered the construction and sailing of the longship, a durable vessel that could reach a maximum speed of 18.5 kilometers per hour and traverse 200 kilometers in a typical day. It was of inestimable value to the Vikings, given the quick-strike surprise tactics that were one of the cornerstones of their military strategy. In ground combat the Vikings employed an impressive array of weapons, including bronze swords, spears, javelins, battle-axes, knives, bows, arrows, shields, and body armor. The average height of a Viking warrior was 1.72 meter, roughly .07 meter taller than most European males whom they would encounter on the battlefield. This physical advantage, along with their skill in psychological warfare, made them a formidable force with which few could reckon. They had even their own cadre of elite military personnel —the Berserkers. Named for their unique attire (bear skins), these operatives appear to have used shamanic techniques to alter their normal state of consciousness in preparation for combat. Byzantine rulers recognized the prowess of Norse (Viking) warriors and utilized their services in the Varangian Guard, a select unit that provided protection for the emperor.



### Religion

Viking warriors had a particularly strong religious attachment to the Norse god Odin, known popularly as the "Father of Victories." Those warriors who lost their lives in battle expected to be ushered by divine escorts, the Valkyries, to Valhalla, Odin's palatial hall in the divine land of Asgard. Here they would feast and continue to train for the ultimate battle, called "Ragnarok," in which the entirety of the cosmos along with its divine and human inhabitants would be destroyed. This final cataclysm would lead to the generation of a new universe, which would be repopulated by a remnant of gods and humans. Odin was considered the patron of war, poetry, and the *futhark*—the runic alphabet. Norse myth records that he obtained the runes (characters of the alphabet) after being hung upside down on *yggdrasil*—the "world tree"—for nine days.

The Norse pantheon consisted of two divine families: the Aesir and the Vanir. The former was made up of the gods living in Asgard. In addition to Odin, these gods included Thor, god of thunder and wielder of the divine hammer Mjollnir; Loki, the divine trickster; and Heimdall, guardian of Bifrost, the bridge leading to the celestial abode of the Aesir. The Vanir lived in the sacred land of Vanaheim and consisted of deities closely associated with the world of nature. The most important of these were Njord, god of wind and sea; Freyja, goddess of love and fertility; and Freyr, twin brother of Freyja and god of sun and rain. In general, the Vikings believed themselves to inhabit a world suffused with the numinous (supernatural) and to be intimately linked with an assortment of spiritual entities. With the embrace of Christianity, this older stratum of belief would not be eclipsed. It would live on in the popular imagination and the development of syncretistic (relating to the combination of different forms of belief or practice) traditions in religion and the arts.

## Mythology

The peoples of northern Europe had a fondness for poetry and an appreciation for its evocative power. Poetry was a particularly effective vehicle for preserving and passing on their myths, epics, and legends. The mythology that helped to shape the social world of the Vikings contained a rich assortment of stories dealing with creation, the exploits of their gods, and the culmination of history. Two thirteenthcentury sources provide the context and background necessary for understanding these stories. Together they open a window onto the world of Norse imagination. The first is Saxo Grammaticus's *History of the Danes* (c. 1215 CE), written from a distinctly Christian perspective. The second is the *Prose Edda* (c. 1220 CE), written by Snorri Sturlson, an Icelandic poet. Viking achievements in the utilitarian and decorative arts were also significant. The former category included their manufacture and embellishment of weaponry (e.g., ships, swords, axes, and shields), utensils (e.g., vessels for drinking), and musical instruments. The latter category included jewelry such as pins, necklaces, and bracelets. Wood, textiles, stone, and metal were the preferred artistic media.

The Vikings left an indelible mark on Western civilization. Through three centuries of sustained military and mercantile endeavors, they played a significant role in the diffusion of Norse culture throughout Europe. This cultural legacy continues to flourish; some of its ancient lore and rituals having been reclaimed today by religious seekers who use it to fashion neopagan spiritualities. Other elements native to it have long been part of popular Christian practice (e.g., the Christmas tree, which may be a cultural reflex of the Norse yggdrasil). Deep resonances between Norse eschatological (relating to the final events in the history of the world) conceptions and those of both Christian theology and scientific cosmology (a branch of metaphysics that deals with the nature of the universe) promise to make Viking society a source of fascination in the twenty-first century as research into global conceptions of cosmic and human origins continues.

Hugh R. Page, Jr.

## **Further Reading**

Allan, T. (2004). Vikings. New York: Barnes and Noble Books.
Campbell, G., Batey, C., Clarke, H., Page, R. I., & Price, N. S. (Eds.).
(1994). Cultural atlas of the Viking world. Abingdon, UK: Andromeda Oxford.

Time-Life Books. (1998). What life was like when longships sailed. Alexandria, VA: Author.

Wagadu Empire

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Warfare—Africa

Warfare—China

Warfare—Europe

Warfare—Islamic World

Warfare—Japan and Korea

Warfare—Post-Columbian Latin

America

Warfare—Post-Columbian North

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# Wagadu Empire

Lical zone between the Sahara to the north (a camel pastoralist milieu) and the savannah and Middle Niger River Valley to the south (a peasant cattle pastoralist milieu), the Wagadu, or Ghana empire was a dominant military and political state system in the first and early second millennia CE. (Wagadu is the name of the empire in the Soninke language. Ghana was one of its ruler's titles, and medieval Muslim geographers named the empire after this title.) It administered a vast area and embraced a culturally and linguistically heterogeneous population. Muslim accounts dating from the late eighth century to the thirteenth century consistently described it as a powerful polity that was particularly rich in gold.

The core area of the empire, whose roots can be traced archaeologically to the first millennium BCE, was the space of its ruling dynasty (the Soninke-speaking Sissay), military and political functionaries, specialized craft and service groups, and its army. The settlement of Soninke-speakers in the area can be dated to the early second millennium BCE and the emergence of hierarchically organized polities occurred between 1600 and 1200 BCE. One historically significant feature of the core was its dynamic and expansive irrigated agricultural system. The social organization associated with its complex of intensive farming practices allowed the system to take over cultivable but marginal desert lands and to assimilate other agricultural communities. Another important feature of the core area was the role



of the Wagadu military and political elites in production and trade.

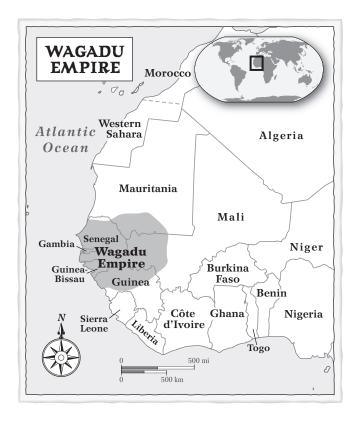
According to a late eighth-century source (al-Fazari of Baghdad), Wagadu was 2,000 kilometers long and 160 kilometers wide and was "the land of gold." The conditions for the expansion of the empire and the development of its domestic economy can be tied to its place in the medieval world economy. Ian Blanchard, a scholar of medieval economic history, has written a detailed study of the history of bullion (gold and silver) production and marketing in the Middle Ages that provides useful insights. He relates that during the years 930-1130, an "industrial diaspora" occurred as the major focus of gold and silver production was relocated from Central Asia to Africa and Europe respectively and a new intercontinental monetary-commercial system began to emerge. Technological changes in the production base of the West African gold industry—namely, the introduction of the mercury amalgamation process—resulted in a dramatic increase in annual gold production. One consequence of this development was the appearance (between 1136 and 1175) of a distinct North African zone of cheap and plentiful gold, extending from the Atlantic Ocean to the Red Sea. The presence of cheap African gold and equally cheap and plentiful European silver led to the emergence of a distinctive Afro-European bullion market that was characterized by long-term price stability and an "anticyclonic" circulation of the two metals. West African gold passed north to the Mediterranean world and in exchange a countervailing supply of European silver flowed south. The process created an Afro-European market structure that distributed the two metals between

the continents. Blanchard goes on to say that the changes in African gold mining and the gold trade permanently established Africa's position in an intercontinental monetary-commercial system for the next four hundred years. For several centuries the Wagadu empire had a central role in this system as a distributor of West Africa gold.

# Extending the Empire

Given its location between the desert and the savanna, the empire had two orientations: One was the northern frontier (irrigated farming and salt production) and the other the southern frontier (rainfall farming and gold production). From the sixth through the twelfth centuries, Soninke-speaking traders, peasants, and political elites moved northwards from the empire's core zone into the southern Sahara to found or to settle in oasis communities (sixth-twelfth centuries). Nomadic Berber-speaking groups were driven out, assimilated, or subjugated. Because of their social commitment to a specialized set of agricultural practices, when the northern "frontier" Soninke took over new land, they introduced a well-defined combination of intensive cultivation techniques and a particular social-administrative organization.

Southward expansion created a different kind of frontier. Soninke-speaking traders, officials, soldiers, and peasants from the core settled in the Middle Niger Valley and the Lakes region at the eastern end of the Middle Niger Valley—also referred to as the Niger Delta. Oral histories record the names of the towns and villages they founded between the eighth and the thirteenth centuries. Indigenous Mande-speaking fishing communities and



rice cultivators were either assimilated or subjugated under a civil administration based on that of the core. Other Niger Valley groups—for example, cattle-herding Fulfulde-speaking pastoralists—became tribute-paying vassals, and local elites were incorporated into the Wagadu imperial system as minor functionaries.

## The Capital

In his eleventh-century description of Wagadu, the Andalusian geographer al-Bakri (d. 1094) states that the empire's capital (contemporary sources refer to the capital as "the city of (the) Ghana") consisted of two large towns situated on a plain. One town was the residence of the king and his court and officials; the other was the town of Muslims, where there were twelve mosques, salaried imams and muezzins, jurists, and scholars. (Al-Bakri relates that the Wagadu king's interpreters, his royal treasurer, and the majority of his ministers were Muslims. The king and the majority of his subjects, however, were not Muslims at the time al-Bakri wrote his account in 1068.) The towns were almost 10 kilometers apart, but the road that joined them was flanked by uninterrupted habitations. Archaeologists believe that the ruined city of Koumbi Saleh (discovered in 1913) in present-day Mauritania is al-Bakri's Muslim town. Excavations reveal what was once a densely populated, fortified city of single and multistoried houses. It was a major craft and commercial center and possessed a great mosque, which was built in the tenth century.

Beyond the remains of the city's fortifications are cemeteries and the remains of many constructions, including habitations, workshops, and a series of stone watchtowers that stretch for a distance of eight kilometers beyond the city's walls. Beyond the last watchtower was a densely built up hinterland that stretched a further 12 to 22 kilometers. Extending 100 kilometers beyond the capital are the remains of stone caravansaries (stone inns where caravans stopped), some of considerable size, and an abundance of tumuli and mounds. The largest tumuli represent the remains of towns. Others represent cemeteries, megaliths, and the ruins of villages, fortifications, and workshops. The building styles and material culture of the ruined sites are similar to those of Koumbi Saleh. The size of the capital and the demographic density and the scale of urbanization in the core can be attributed, in part, to the empire's role in the trans-Saharan and intercontinental bullion trading networks.

#### **Economy**

Between the ninth and twelfth centuries, cattle herders and millet- and sorghum-producing peasants settled in the lands above the Niger Valley floodplain. Oral histories credit Wagadu governors with constructing irrigation canals and water reservoirs for the purpose of improving agricultural production. Between the eleventh and thirteenth centuries, dry-farming agriculture gradually supplanted floodplain agriculture as the principal farming system in the Niger Valley. Dry-farming agriculture was established by migrant Bamana-speaking peasants who settled on the lands above the Middle Niger floodplain. Specializing in millet production, they represented a new and expanding market for the products of the fishing industry. In this way dry-farming stimulated the fishing industry and incorporated it into a wider commercial network that extended to the Upper Niger gold fields and Saharan oases. The growing Niger Valley population

	Key Events in the History of African States
8th century BCE	Cush (in southern Egypt and northern Sudan) invades and conquers Egypt; Shabaka of Cush establishes Egypt's twenty-fifth dynasty.
6TH CENTURY BCE	Meroë becomes the capital of Cush.
lst millen- nium ce	Wagadu (Ghana) empire flourishes.
1st-3rd CENTURY CE	Kingdom of Cush flourishes, engages in trade with Rome.
MID-3RD CENTURY CE	Aksum replaces Cush as principal supplier of goods to Rome.
Early 6th century ce	Aksum loses its Nile Valley and southern Arabian provinces.
6TH CENTURY	Nubian kingdoms (Nobadia, Makuria, and Alodia) flourish.
8th century	City of Aksum abandoned.
9TH-14TH CENTURY	Centralization of political power in central Africa leads to the formation of the kingdom of Kongo.
10TH-12TH CENTURY	Hausa states emerge.
c. 1150—early 14th century	Saifawa dynasty rules in Kanem, in the Lake Chad basin.
Early 13th century	Wagadu reduced to a tribute-paying vassal of Soso and Mali.
13TH CENTURY	Nubian kingdom of Alodia begins to disintegrate.
13TH-14TH CENTURY	Loose alliance among the seven Hausa states.
MID-13TH- MID-15TH CENTURY	Mali empire flourishes on the Upper Niger River.
1290-1450	Great Zimbabwe flourishes in southern Africa.
15th century	Empire of Songhai is expanding.
15th century	The East African island of Kilwa is a leading trading center.
1591	Songhai loses its independence to invaders from Morocco.
17th-18th	Bornu, in the Lake Chad basin, is one of the largest states in Africa.
1808-1903	Sokoto caliphate flourishes in West Africa.
1818-1879	Zulu kingdom flourishes.

created a new market for Saharan salt, urban craft goods, and trans-Saharan imports.

#### LABOR CONTROL:

#### The Somono and the Zanj

In the context of an expanding intercontinental bullion market, Wagadu sought to exploit more effectively and systematically the natural riches of the Niger River, principally through the development of the fishing industry, the hunting of aquatic animals, and the trade in these resources. The expanding bullion market was connected to the general expansion of long-distance commerce, including the trans-Saharan trade. Urbanization (population growth in established towns and the founding of new ones) and the growth of urban crafts were crucial both to the expansion of trade and efforts to exploit the riches of the Niger River. During the eleventh and twelfth centuries, new occupational groups of free-status people known collectively as the Somono were created. Drawn from the ranks of the bonded and war captives, the Somono were settled in new villages or in preexisting ones. In obligatory service to the Wagadu ruler, they specialized in river transport as boatmen and in boat building, aquatic hunting, and the production of fish and fish oil. In return for their obligatory services to the ruler, the Somono were granted, by the ruler, a monopoly over certain economic activities within the Middle Niger Valley. If the ruler did not protect their monopoly, they were no longer obligated to provide him with their services.

A concomitant development was the creation of a number of hereditary slave groups. They included blacksmiths, cultivators, fishermen, herders, masons, armed retainers, messengers, and boatmen. Known collectively as the Zanj, they were royal property and were in lifelong service to the king. In this period and later there were different categories of servitude in the western Sudan, and some of these categories do not have counterparts in other areas of the world. The Zanj consisted of specialized economic groups, each of which was endogamous. They were royal property in the sense that they were obligated to pay "tribute" to the rulers in the form of economic and service activities. They owned property, for example, their instruments of production, and they could also own slaves (just as slaves could own slaves). Their property was their own and not the rulers, which gives a distinct twist to the condition of servitude in the Wagadu Empire. The specialized economic groups—the Somono and the Zanj—exercised monopolies over their specific activities and occupations, in return for which they paid tribute to the Wagadu rulers.

#### Long-Distance Trade

The Middle Niger Valley was known to medieval Muslim geographers as the "Land of the Wangara." In this context, the name Wangara refers to the principal gold merchants of the empire (Wangara is a generic name given to long-distance traders, specifically gold traders; hence it refers to an occupational/economic group and an accompanying social status) and to the towns they inhabited. The Wangara trade network covered an immense area, joining the entire Niger Valley into a single commercialcraft system, running from the goldfields in the Upper Niger basin in the west to the Lakes Region in the east. In addition to bullion, this system distributed a wide range of products—salt, copper, iron, craft goods, produce, fish, and so on-both within and beyond the empire. Exporting perhaps 13 to 18 metric tons of gold to North Africa under the most favorable conditions and perhaps 4 to 9 metric tons in less favorable circumstances, it was responsible for ensuring the empire's place in the international bullion market.

## Islam and the Empire

The history of Islam in the Wagadu empire can be divided into two phases. The first phase (eighth-eleventh centuries) belongs to Kharijite Islam; the second (eleventhtwelfth centuries) to Sunni Maliki Islam. Muslims of the Ibadi stream of Kharijite Islam introduced Islam into Wagadu in the eighth century. From that date until the twelfth century Ibadi merchants and clerics settled in the empire's urban centers, trading and proselytizing. The earliest converts were the Wangara gold merchants. Ibadi-Wangara relations were not only commercial; they were also scholarly. Between the ninth and eleventh century the



Ibadi-Wangara communities produced an influential religious-philosophical culture, which embraced a significant part of the western Islamic world.

The Sunni Maliki phase is associated with the religious reforms of the Berber Almoravid dynasty in North Africa (1039/40–1147). The ruling dynasty and the political elites of Wagadu converted to Sunni Islam in the 1070s or 1080s and joined the Almoravids (a coalition with the Senegal Valley-based Takrur Kingdom; Wagadu joined this coalition in order to take part in controlling the western trans-Saharan routes up to the Maghrib). Thus, Islam became the state religion of Wagadu. The inhabitants of the capital's Muslim section were Kharijites and Sunni Maliki believers. In the course of the twelfth and thirteenth centuries Kharijites became a minority among the faithful. The Almoravid-Wagadu connection had both a military and intellectual dimension. Writing between 1137 and 1154, the Andalusian geographer al-Zuhri refers to prominent Wagadu scholars, lawvers, and Quran readers in Andalusian towns. He also mentions the Wagadu army commanders who traveled to al-Andalus to participate in the jihad against the Christians of northern Iberia.

#### Decline

By the early thirteenth century Wagadu ceased to be a state system in the political geography of West Africa. The Soso kingdom, a former tributary located along the southern frontier of the empire (late twelfth–early thirteenth century) and then the Mali empire (mid-thirteenth–mid-fifteenth century) that arose on the Upper Niger River reduced Wagadu to a tribute-paying vassal state. Nevertheless, Wagadu's core zone continued to flourish until the first half of the fifteenth century, after which it ceased to exist as a political entity.

Ray A. Kea

## **Further Reading**

Berthier, S. (1997), Recherches archéologiques sur la capitale de l'empire Ghana [Archaeological research at the capital of the Ghana empire]. Oxford, UK: Hadrian Books.

Blanchard, I. (2001). Mining, metallurgy, and mining in the Middle Ages. Stuttgart, Germany: Franz Steiner Verlag.

Devisse, J. (1988). Trade and trade routes in West Africa. In M. El Fasi & I. Hrbek (Eds.). *General history of Africa: Vol 3. Africa from the seventh to the eleventh century* (pp. 367–435). Berkeley and Los Angeles: University of California Press.

Holl, A. (1985). Background to the Ghana empire: Archaeological investigations on the transition to statehood in the Dhar Tichitt region (Mauretania). *Journal of Anthropological Archaeology*, 4, 73–115.

Levtzion, N. (1980). Ghana and Mali. New York and London: Africana Publishing Company.

Levtzion, N., & Hopkins, J. F. P. (Ed. & Trans.). (2000). Corpus of early Arabic sources for West African history. Princeton, NJ: Markus Wiener Publishers

McIntosh, R. (1998). The peoples of the Middle Niger. Malden, MA: Blackwell Publishers.

McIntosh, S. K. (1981). A reconsideration of Wangara/Palolus, island of gold. The Journal of African History, 22, 145–158.

McIntosh, S. (Ed.). (1995). Excavations at Jenné-Jeno, Hambarketolo, and Kaniana (Inland Niger Delta, Mali), the 1981 season. Berkeley and Los Angeles: University of California Press.

Messier, J. A. (2001). The Almoravids, West African gold, and the gold currency of the Mediterranean basin. *Journal of the Economic and Social History of the Orient* 17(1), 31–41.

Miller, J. A. (2001). Trading through Islam: The interconnections of Sijilmasa, Ghana, and the Almoravid movement. *The Journal of North African Studies*, 6(10), 29–58.

Pingree, D. (1970). The fragments of the works of Al-Fazari. *Journal of Near Eastern Studies*, 29, 103–23.

Raimbault, M., & Sanogo, K. (Eds.). (1991). Recherches archéologiques au Mali [Archaeological Research in Mali]. Paris: Éditions Karthala.

# War and Peace— Overview

Questions of war and peace have dominated politics and philosophy since the dawn of civilization; conquest and resistance have shaped major eras of global development. But while war and peace are from one perspective inseparable twins—two sides of the same coin—the histories of war and peace have not been so symmetrical. History has often been written about war; "peace studies," on the other hand, are a modern academic invention. (And note which term comes first in this article's heading.) This asymmetry points to a fundamental question about war and peace: Which condition, war or peace, is "normal" and which the aberration?

While a historian's answer might be that both are "normal" as aspects of the past, the question remains current because it implicates debates about human nature and, often, social and political policy. In other words, how one views the origins of war affects how one sees the possibility or advisability of trying to end war. This article will sketch an overview of the historical origins of war, of the major stages in the history of war, and of the landmarks in the less-studied history of peace.

#### The Origins of War

Getting at the origins of war historically is, of course, a difficult task, and controversy surrounds all attempts at providing an answer. Even defining war proves difficult, as what counts as war is built into many interpretations of the evidence. Since written records do not take us to a time before war, historians must depend on archaeology and anthropology for evidence. Anthropological approaches have often involved studying isolated huntergatherer peoples living much as our ancestors did thousands of years ago. The Yanamamo of the Amazon basin are a famous case. The very high levels of interpersonal (especially inter-gender) and intertribal violence that characterize Yanamamo culture have often been taken as evidence that a proclivity for warfare is built into human nature. But recent reinterpretations of the original field studies in light of the broader colonial history of South America have called this reading into question. Far from being isolated, the Yanamamo have been directly and indirectly affected by neighboring (and often more complex) societies for centuries—societies which themselves practiced organized warfare, exported weapons, and in general contaminated the supposedly pristine experiment provided by the Yanamamo, or indeed by any other simple society that managed to survive into the twentieth century. And for every study of a violent tribe, there seems to be a counterexample of a study of a group living peacefully. The anthropological record, at least based on studies of living peoples, is therefore problematic.

The archaeological record poses its own problems, however, because it is far from complete. But the outlines of an answer are beginning to emerge. Skeletal remains of Homo erectus, the widespread ancestor of modern humans, have been gathered from sites across Eurasia dating from between 2 million and 100,000 years ago, and skeletons of Homo sapiens, the modern human species, from between 150,000 and 10,000 years ago have been found around the world. Of these several thousand skeletons, very few bear any unambiguous signs of human-inflicted violence, and those that do are isolated cases. In short, if we define war as organized human violence against other humans, as opposed to the odd murder, there is no evidence for it before about 8000 BCE. A site in northern Iraq from around that date is the earliest of a type that becomes increasingly common later: a mass burial of several hundred skeletons showing clear signs of the impact of human weaponry. At roughly the same time, unambiguous fortifications also begin to appear in the same part of the world. The evidence spreads from this point of origin and also appears independently later in other places such as northern China.

What conditions characterize the places and times where warfare springs into existence after millennia of peace? Not surprisingly, given the times and places involved, the conditions are associated with the emergence of agriculture. A rising population in especially fertile areas and rich hunting grounds began to put pressure on those resources. Nevertheless, populations in such areas, even before full-scale agriculture, became less nomadic, staking claims to territorially defined settlements, a trend reinforced by farming. In addition to putting pressure on resources, the rising population—in terms of both absolute numbers and the density of settlements—led to the rise of increasingly defined social hierarchies and mechanisms of community governance. Even if such developments arose to deal with questions of intra-community dispute resolution and economic redistribution, they provided the means for a more organized and effective communal response to outside threats, especially in terms of centralized decision making. Finally, in the first case in northern Iraq and in several later cases where war making arose apparently independently, there appears to have been a severe environmental crisis that triggered the move to military conflict by creating an

## Francis Bacon on Power and War

Statesman Sir Francis Bacon (1561-1626) wrote on many subjects, from truth and envy to gardening, but perhaps wrote most forcefully on power, and in this essay on the importance of a military spirit:

But above all, for empire and greatness, it importeth most, that a nation do profess arms, as their principal honor, study, and occupation. For the things which we formerly have spoken of, are but habilitations towards arms; and what is habilitation without intention and act? Romulus, after his death (as they report or feign), sent a present to the Romans, that above all, they should intend arms; and then they should prove the greatest empire of the world. The fabric of the state of Sparta was wholly (though not wisely) framed and composed, to that scope and end. The Persians and Macedonians had it for a flash. The Gauls, Germans, Goths, Saxons, Normans, and others, had it for a time. The Turks have it at this day, though in great

declination. Of Christian Europe, they that have it are, in effect, only the Spaniards. But it is so plain, that every man profiteth in that, he most intendeth, that it needeth not to be stood upon. It is enough to point at it; that no nation which doth not directly profess arms, may look to have greatness fall into their mouths. And on the other side, it is a most certain oracle of time, that those states that continue long in that profession (as the Romans and Turks principally have done) do wonders. And those that have professed arms but for an age, have, notwithstanding, commonly attained that greatness, in that age, which maintained them long after, when their profession and exercise of arms hath grown to decay. . . . Let it suffice, that no estate expect to be great, that is not awake upon any just occasion of arming.

Source: Bacon, F. (1601). The Essays. Number 29: Of Greatness of Kingdomes and Estates. Retrieved July 29, 2004 from http://etext.library.adelaide.edu.au/b/bacon/francis/b12e/

especially great strain on established resource levels. The result: Formerly peaceful neighboring peoples resorted to organized violence against each other to protect their place in the world.

Once the resort to arms had taken place, several additional dynamics reinforced the tendency for warfare to spread rapidly beyond its points of origin, and indeed beyond places where the initial conditions held. For one, it was a successful technique, at least from the perspective of the early winners, who were of course the ones best placed to exploit the new way of life. But perhaps even more important then and thereafter was the interaction of warfare with social class and political leadership. The interests of social elites in hierarchical societies naturally diverged from the interests of the mass of the people, and warfare proved more beneficial to the elites than to the farmers, because the elites were more likely to specialize in the bearing of arms (so becoming warrior elites) and thus to garner the most in terms of glory and riches from waging war.

And as the most intense form of crisis that societies now faced, warfare made strong leadership all the more crucial. Tribal leaders, chiefs, or kings knew this and therefore favored war as policy more than the interests of their society as a whole would have. To paraphrase sociologist Charles Tilly's famous maxim about states, war made leaders and leaders made war. Finally, once there were war-making powers on the political map, any society in contact with them had to adopt the new mode of organization or risk conquest and extermination. Avoiding warfare was no longer an option, and war became a constant in human history, complete with fortifications, arms races, and wide-ranging social and cultural effects.

### Stages in the History of War

How societies made and make war is probably the central question in military history. The question has often been answered in narrow terms of strategy and tacticsthe "art of war" and its supposedly universal principles. Technological determinism, the view that ways of making war are shaped crucially and perhaps exclusively by available weaponry, also has a long historiographical tradition. But modern military history (as well as some ancient writing on war) tends to take a broader view of the question, analyzing the social and cultural parameters

### In order to defend Paris during the Franco-Prussian War, a national guard unit begins moving toward the front.

that shape war-making in particular societies. This is not to deny that the fundamental constraints of economics and technology do not shape warfare—the largest historical patterns certainly can be constructed around such factors—but rather that how different societies make use of technology depends on their pre-existing social and cultural characteristics. It is the combination of social organization and technology, in fact, that marks the first two stages of the history of war ("types" might be more accurate than "stages," because the two existed concurrently and often in symbiosis).

#### Elites and Commoners

In early sedentary societies, the social division of elites and commoners proved fundamental to military organization, though

different states managed the division in different ways. Though masses of conscript infantry might constitute the numerical bulk of a polity's army, a spearhead of warriors who were elite both by training and social status usually made up the most effective and sometimes the only real fighting force. The dominance of elites was reinforced through differential distribution of the best military technology, which meant in the first instance metal weapons, first of bronze and later of iron. A second technology, the domesticated horse, allowed elite warriors mounted on chariots to thoroughly dominate ancient battlefields. In time, chariots gave way to riding, but the superior social position of the cavalryman remained, marked by the height from which troopers looked down on foot soldiers and the cost of their mounts.

In later ages, the dominance of often-mounted elites usually survived socially and politically even when the massed infantry assumed central importance on the battlefield. Dominant infantry forces were not the product of technology, but again of social and political conditions. Cohesion is the key to infantry effectiveness, and it emerged in two ways. In certain circumstances, commu-



nal service, exemplified by the phalanxes of the Greek city-states, bound foot soldiers together. More often, the emergence of a strong state allowed rulers to raise and train large infantry forces, imposing cohesion from above: This is the model of imperial Rome and China. Variations of state strength, elite dominance, and social structure account for most of the different forms taken by armies from classical times and well into the second millennium CE.

#### Horse Peoples

But a second model of social and political organization coexisted with the sedentary elite-commons model from early on, and regularly bested the latter's many variations in combat. Domestication of the horse (and probably the invention of the chariot as well as riding) was in fact a product of the central Asian steppes, the vast grasslands stretching from the northwestern borders of China into the Hungarian plain. Too dry for agriculture, the steppes instead supported a population of nomadic herders. Hardened by constant competition for grazing lands and inured by their lifestyle to constant campaigning, when

I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones. • Albert Einstein (1879–1955)

mounted on horses and armed with short but powerful compound bows, steppe peoples made fierce and formidable fighters, unconstrained by the need to coddle a class of dependent farmers and unspoiled by the niceties of sedentary life. The mobility and firepower of a large force of steppe warriors was hard to beat tactically.

What they often lacked, however, was political cohesion, as herding provided too little surplus on which to build stable social hierarchies and state structures, and so many steppe forces remained small. Paradoxically, nomad coalitions and proto-states grew strongest in proximity to rich and powerful sedentary states, as nomadic leaders used sedentary goods obtained in trading, raiding, and conquest to build and maintain support. The eastern steppe, connected to the west by a narrow corridor between deserts and facing the often-powerful Chinese state, most often generated such coalitions, and movement on the steppe tended therefore to flow from east to west.

Nomadic conquests and alliances regularly affected the sedentary societies near the steppes, at times replacing or invigorating the ruling class and at times spreading destruction, and often serving as a conduit for the movement of goods and ideas. There were other nomadic frontiers: in Arabia, a more static tribal land that erupted only once, though decisively under Mohammed that one time; to the north of the central Mexican civilizations; in the grasslands south of the Sahara; and in a fragmented "inner frontier" in India. All were sources of military manpower and political instability, but the Asian steppes had the biggest impact.

#### Gunpowder

The long-term demographic trend ran against the pastoralists and in favor of the agriculturalists, however, and after 1500 CE two further developments first reduced and finally eliminated the independent power of the steppe peoples. First was the shift of Eurasian trade routes towards sea-borne commerce, a tendency that accelerated rapidly after the age of da Gama and Columbus and that much reduced the importance of the steppes as an eastwest link. Second was the spread of gunpowder technol-

ogy, which in combination with spreading fortifications effectively countered the firepower and mobility that were the nomads' greatest weapons.

An age of gunpowder weapons extending from roughly 1400 to 1800 ce is a convenient label for the next stage in the history of warfare, but the causal significance of firearms is the subject of much scholarly debate, centered around the related concepts of a "military revolution" in western Europe and the creation of "Gunpowder Empires" in much of Eurasia. Neither concept in fact stands up to close scrutiny. Instead, guns prove to be yet another technology whose impact depended greatly on the social and cultural context into which it was introduced.

Again, basic variations in state strength, elite power, and social structure, as well as (increasingly) economic resources, shaped the differences in armed forces in this age, and no area could claim a significant advantage in military effectiveness until perhaps the last half of the eighteenth century, when European methods of drill, organization, recruitment, and logistics began to move somewhat ahead of the pack. But even that advantage was still limited by technologies of transport and communication that prevented the projection of significant levels of force much beyond Europe itself. Only at sea was the European combination of ships and cannon dominant before the nineteenth century.

#### INDUSTRY

With the coming of the industrial revolution, though, warfare entered a new age, as did every other area of human endeavor. While technology was central to this transformation, it was not specific military technologies that were crucial to the transformation of warfare and the emergence of true European dominance globally in the late nineteenth century, though ironclad steamships and machine guns, among other inventions, certainly played important roles. Rather, it was the vastly increased productive and transport capacities generated by industry that, through two centuries of constant innovation and improvement, brought to war the same character that it brought to the economy, politics, and culture: mass.

### Laozi on Power and War

When people are born, they're supple and soft;

When they die, they end up stretched out firm and rigid;

When the ten thousand things and grasses and trees are alive, they're supple and pliant;

When they're dead, they're withered and dried out.

Therefore we say that the firm and rigid are companions of death,

While the supple, the soft, the weak, and the delicate are companions of life.

If a soldier is rigid, he won't win;

If a tree is rigid, it will come to its end.

Rigidity and power occupy the inferior position;

Suppleness, softness, weakness, and delicateness occupy the superior position.

Source: Lao-Tzu. (1989). *Te-Tao Ching* (p. 47). R. G. Henricks, (Trans.). New York: Ballantine Books.

Mass production of weapons and supplies supported mass conscript armies, inspired by the mass politics of nationalism that had first appeared in the armies of the French Revolution and Napoleon. Mass destruction in two world wars and in the potential for Mutually Assured Destruction brought about by nuclear arsenals resulted. Total War recognized ideologically the practical effect of weapons systems that reached under water, into the air, and beyond into space: the potential to erase any distinction between the frontline and the home front. War itself had become a global phenomenon.

One reaction to the potential for global destruction made possible by modern military technology has been the decentralization of warfare. Even during the Cold War, most of the hot wars were fought by proxies for the great powers on one side or both. Since the collapse of bipolarity in 1989, decentralization has increased, with a majority of armed conflicts occurring in civil and guerrilla wars below the level of state-to-state war, including

the emergence of global terrorism. Conventional wars seem likely, when involving great powers, to be waged only when the odds in favor of an easy victory are seen to be high, as in the two wars the United States has fought in Iraq; civil conflicts ensure that peacekeeping, too, will continue to occupy the soldiers of rich nations.

The other reaction to the real and potential destructiveness of modern war has been the emergence, since the mid-nineteenth century, of organized peace movements and mass protests against state-led violence. Believing that Mutually Assured Destruction is indeed a mad concept for international relations, opponents of nuclear weapons, in particular, often call for an end to all war.

#### Histories of Peace

The dialectic between war and peace long predates modern peace movements, of course. The emergence of war stimulated thinking about war, about peace, and about the desirability of either or both and about how peace was to be achieved.

#### Classical Philosophy

Attitudes to war in ancient philosophy rarely invoke true pacifism, the belief that war is so evil that it should be avoided at all costs. In some warrior-dominated cultures, indeed, warfare was glorified; seeking peace would have removed all hope for glory and obviated one of the ways in which men (always men, for the history of warfare is highly gendered) gave meaning to their lives. Homer's *Iliad* provides a clear example of this outlook, though the Odyssey is more balanced and both recognize the human costs of war. The Indian philosophical tradition raised the elements of such an outlook to the level of high philosophy. The Bhagavad Gita, the central story of the epic Mahabharata that forms a central text of Hinduism, explains the concepts of law, duty, and cosmic order in terms of a warrior's dilemma about killing his relatives in a looming battle, with the god Vishnu ultimately showing that killing is a warrior's sacred obligation.

Other classical traditions, while perhaps less nonchalant about individual deaths, recognize war as an evil necessary to the maintenance of order (both internal and

external) and required of good rulers and men in the face of threats to both order and freedom or independence. Greek and Roman writers and Chinese theorists of war such as Sunzi share this outlook, which is perhaps simply a concomitant of a secular, state-centered view of the world. For these thinkers, peace was preferable, but war had benefits, including the possibility of ensuring a more secure peace.

#### THE SALVATION RELIGIONS

Another strain of ancient thought, exemplified by the Hebrew and Persian traditions, sanctioned war even less problematically as part of a universal god's plan for the world and His Chosen People. Both of these traditions influenced the salvation religions of Christianity and Islam, whose attitudes towards war and peace are complicated. Although often portrayed as a pacifist religion in its early days, Christianity in effect accepted war as soon as it accepted the existence of the state in the form of the Roman Empire, and pacifism was from the start a minority voice in the new religion. Early Christian thinkers emphasized the deploring of war implicit in classical views, but ultimately saw its necessity for

order. When Christianity emerged after Constantine as the state religion, it therefore made a relatively easy transition to sanctioning warfare led by Christian rulers. St. Augustine had worked out the main tenets of a Christian theory of just war by around 400 CE. This put limits on the proper conduct of war, but questioned neither its necessity nor its justness within those limits. By the twelfth century, Just War theory had accommodated the Crusades, and Holy War became a part of the western Christian tradition as it already had in Byzantium.

Islam was born in war, and gave birth to a Muslim theory of Just War that closely resembled the Christian

version. The complication was that the mainstream Islamic tradition looked back to the desert past for models, and so had much more difficulty than Christianity in sanctioning the existence of the state. Since the state was vital to the prosecution of war, just or not, Muslim polities sometimes had more practical difficulty than Christian ones in sanctioning warfare, despite accepting it in theory.

The other major salvation religion, Mahayana Buddhism, has much less to say about war in explicit terms. Unlike Christianity, which came to prominence with Constantine's military victory under the sign of the cross, Buddhism spread in the wake of the Mauryan Emperor Asoka's conversion, prompted by the horrors of his conquest of Kalinga, and so did contain a strong pacifist tendency. Yet Buddhist states, such as Tibet, and Buddhist warrior classes, such as the bushi of Japan, both managed to reconcile religion and warfare, and it is perhaps more accurate to say that Buddhism encourages individual quietism, politically, rather than state pacifism. In sum, the effect of the salvation religions on warfare was mostly to

put theoretical limits on the conduct of war, but within those limits to sanction and jus-

> tify warfare. Peace remained an ideal more preached than practiced.



**During the Boer War in** South Africa (c. 1900) five British soldiers pose with rifles protecting a woman holding the British flag symbolizing the British Empire.

#### CULTURES OF WAR

In practice, limits on warfare were more likely to emerge from particular cultural practices than from overarching religious systems. Most cultures since warfare began have imposed limits on what was and was not acceptable, both in declaring war and in prosecuting it. Rules might govern the treatment of noncombatants and the ransoming of prisoners versus killing them; convention (as well as logistics based on weather and the rhythms of agriculture) might limit campaigning seasons to certain times of year. Certain



weapons or ways of fighting might be taboo, quite literally. Ritual penance often served as an obligatory aftermath of killing in war. While often connected to or interpreted within a framework of religion (including the salvation religions), such limits tended to be somewhat localized and displayed the malleability of custom and tradition, not the legalism of exegesis.

Many of the most destructive wars in history resulted from the breakdown of such norms of warfare, either because of "cheating" by an internal player in the cultural system or, more often, because of the intrusion into the system of an external invader who did not know or play by the rules. Warfare that crossed lines of culture, in other words, tended to be bloodier than intra-cultural warfare, whether the lines of culture were drawn along linguistic, religious, ethnic, or class lines. Whether it occurred in the warfare of Greek city-states in the wake of the Persian invasion, in the European conquest of the Americas, or in the eruption of terrorism into New York City in 2001. the breakdown of an unstated but pervasive set of rules of war has usually stimulated both the most vehement calls for further war and the most impassioned pleas for peace—from Aristophanes' Lysistrata to Bartolomeo de las Casas' arguments in favor of los Indios to modern anti-war movements.

Terrorism is seen to violate norms that have acquired the force of international law, and the formalization of ritual limits on warfare, not just in law but in regulated systems of diplomacy, has also served at times to mitigate the effects of warfare. The nomad-sedentary frontier was a frequent site of both breakdowns of warrior convention and the construction of diplomatic ties that created new, broader cultures of acceptable war. While the inherent instability of the steppes often rendered such efforts impermanent, longer-lasting state-based systems of international diplomacy and understanding have perhaps worked to greater effect, and have produced in the twentieth century mechanisms such as the UN aimed at creating a global culture of peace rather than war.

#### Modernity: Beyond War and Peace?

The rise of modern peace movements as an aspect of mass politics and in reaction to the destructiveness of modern war has often been associated with other modern political movements aimed at expanding human rights generally. Jane Addams, best known as the founder of Hull House and for her efforts for women's suffrage, also worked for world peace; Gandhi used nonviolent resistance against British imperialism and worked for peace; and Martin Luther King Jr. adopted Gandhi's tactics to work both for civil rights and against U.S. involvement in Vietnam. While the work of individuals and even groups in promoting peace may seem unrealistically idealistic against an ongoing backdrop of civil wars, terrorism, and rogue nuclear powers and in the wake of the bloodiest century in human history, there are trends that seem more hopeful.

Political scientists like to point out that no two democracies have ever gone to war with each other (the Civil War between the USA and the CSA forming a controversial exception), and the world at the turn of the millennium is more democratic than ever before. The economists' version is that no two countries with McDonald's have gone to war with each other (although NATO did bomb Belgrade); perhaps increasing global interdependence through economic ties tends to mitigate against warfare. On the other hand, environmental crises played a role in the origins of war, and they may play a role in its continuation in the twenty-first century. What is certain is that questions of war, peace, and human rights are now global concerns.

Stephen Morillo

## **Further Reading**

Ackerman, P., & DuVall, J. (2000). A force more powerful: A century of non-violent conflict. New York: St. Martin's Press.

Barash, D., & Webel, C. (2002). *Peace and conflict studies*. Thousand Oaks, CA: Sage Publications.

Barfield, T. (1989). The perilous frontier: Nomadic empires and China. Oxford, UK: Blackwell.

Black, J. (1998). War and the world. Military power and the fate of continents, 1450–2000. New Haven, CT: Yale University Press.

Black, J. (2003). War: An illustrated history. Gloucestershire, UK: Sutton Publishing.

Bradford, A. (2001). With arrow, sword and spear: A history of warfare in the ancient world. Westport, CT: Praeger.

Crone, P. (1989). Pre-industrial societies. Oxford, UK: Blackwell.

Diamond, J. (1997). Guns, germs and steel. The fates of human societies. New York: Norton.

Life has meaning only in the struggles. Triumph or defeat is in the hands of the Gods. So let us celebrate the struggles. • SWAHILI WARRIOR SONG

Dupuy, T. N., & Dupuy, R. E. (1986). The encyclopedia of military history from 3500 BC to the present (2nd Rev. ed.). New York: Harper Collins.

France, J. (1999). Western warfare in the age of the Crusades. Ithaca, NY: Cornell University Press.

Fussell, P. (2000). The Great War and modern memory. Oxford, UK: Oxford University Press.

Hedges, C. (2002). War is a force that gives us meaning. Boulder, CO: Public Affairs.

Keegan, J. (1993). A history of warfare. New York: Knopf.

McNeill, W. The pursuit of power: Technology, armed force and society since AD 1000. Oxford, UK: Oxford University Press.

McPherson, J. (1988). Battle cry of freedom: The Civil War era. New York: Ballantine.

Murray, W., & Millet, A. (2000). A war to be won: Fighting the Second World War, 1937–1945. New York: Harvard University Press.

Parker, G. (1995). The Cambridge illustrated history of warfare. Cambridge, UK: Cambridge University Press.

Wawro, G. (2000). Warfare and Society in Europe, 1792–1914. London: Routledge.

# Warfare—Africa

A shas been true for human societies everywhere, almost all African societies have had many experiences of conflict that escalated into various forms of warfare. A few behavioral theorists have speculated that the earliest hominid and human communities, which arose in Africa, were initially formed in the crucible of violent conflict. While controversial, such theories have had a major impact on the public imagination since the late twentieth century; these ideas may well have shaped the stereotype that Africans have—from earliest times until the present century—been almost hopelessly trapped in cycles of communal war and violence. The history of warfare in Africa, however, does not bear out this gloomy vision.

#### **Traditional Warfare**

Many African societies have held a special place for martial specialists, or warriors. In and of itself, however, the role of such specialists is not necessarily evidence of widespread warfare on the continent before the arrival of Europeans. At the same time, it does suggest that Africans were prepared for various wars and other violent conflicts. The warrior classes often provided training and testing grounds for societally valued traits of masculinity

while at the same providing means of defending the populace from any external threats. In some cases these threats involved political challenges to established leadership or efforts to subsume additional people into either an established or a new sociopolitical orbit. But frequently the point of such traditional conflict was acquiring wealth, often cattle. In eastern Africa, for example, Jomo Kenyatta recalled that for the Kikuyu, warfare was sometimes little more than "a form of stealing by force of arms" (Kenyatta 1938, 198).

For many Africans the mystique of warfare was bound up with ritual and magic. Warriors frequently displayed their prowess both in ceremonies, including dance and musical performances, and in more private rituals, sometimes associated with limited-membership groups or secret societies. The exploits of traditional African military leaders were often extolled in public recitation of their deeds. Frequently these included magical explanations of their successes calling upon the spirit sources of their strength and other abilities. Such were the stories told of the great warrior and national leader Sundiata (d. 1255), founder of the Mali empire, by the Malian griot (storyteller), Mamadou Kouyate. Despite significant traditional support for warfare, there was little in the experiences of traditional warfare to prepare Africans for the challenges of warfare presented by expanding external demands for economic advantage or political power.

## Impact of the Slave Trade

While some African wars traditionally resulted in the capture of human beings and the absorption of those individuals as productive members of their captors' societies, external demands for slaves occasioned a transformation in these patterns of African warfare. Islamic sources make clear that African societies were from an early time willing to adjust their patterns of war to encourage the capture of people who could be sold as slaves. But it was the almost insatiable demand of European traders for slaves from the sixteenth century onward that transformed African warfare in material ways. In particular regions, such as the eastern frontiers of the kingdom of Kongo and the grasslands and scrub forests of West African south of the Sahara, the devastation caused by increased

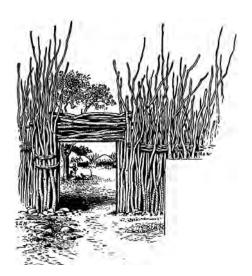
warfare was especially significant. Even after opposition to the Atlantic slave trade grew in Europe, in other regions warfare in the search for slaves continued well into the nineteenth century to satisfy the demand for slaves in Arabia and on European-settled islands in the Indian Ocean.

The latter effects of warfare inspired by the demand for slaves was responsible for one of the great ironies of colonialism, the call for European intervention on the African continent to end persistent African warfare. This was the basis

of appeals made by the missionary David Livingston (1813–1873) for British involvement to bring the benefits of Christianity, civilization, and legitimate (as opposed to slave) commerce in eastern and southern Africa. These calls were made at a crucial time, when both literacy and the availability of low-cost popular publications were shaping the awareness of many Europeans about the African continent. These ideas first set in place notions of widespread African warfare, which were exacerbated by later developments in colonial policies regarding Africa.

### Colonial Warfare in Africa

Chief among the results of calls for ending African warfare were military expeditions to "pacify" African peoples and bring them under the "benevolent" control of European powers. In two divergent ways, these efforts also involved Africans in new experiences of warfare. One, of course, was a reorientation of African military efforts to oppose the expansion of European interests on the continent. For the most part, Africans were ill-equipped to counter the increasingly technological forms of warfare they confronted. Few African armies were able to successfully repulse European incursions, although some had occasional successes, as did the Zulu impis (regiments) in defeating British troops at the Battle of Isan-



A stockade around a village in Africa in the 1800s built to protect the residents from human and other animal predators.

dalwana in 1879. Only the Ethiopians, under Emperor Menelik (1844-1913), were fully successful, turning away Italian invaders at the Battle of Adwa in 1896.

The second new military experience tied to colonial expansion was the effort to turn Africans-and especially those from what European colonialists presumed to be "martial races"—into soldiers of colonialism, transforming them into the very troops needed to first create and then enforce colonial domination in many areas of the

continent. Among the earliest of these colonial military units was the British King's African Rifles (KAR), soldiers recruited from east and central Africa. KAR (and other similar) units not only preserved the colonial peace within their own territories, but often were sent to other parts of the continent to enforce colonial rule. This practice of co-opting colonial Africans as the military agents of colonial warfare represents a historical turning point in the impact of warfare for Africans.

#### Africans and the World Wars

In many ways, the culmination of this transformation came as colonial powers sought to utilize colonial troops in their own defense when facing the daunting military challenges of the twentieth century. The European warfare that began in August 1914 was in many ways brought on by colonial rivalries and soon spilled over into those colonies themselves, especially in Africa. Minor campaigns brought modern warfare to several areas of the continent for the first time, and the East African Campaign actually continued until several days beyond the armistice in Europe. Perhaps 2 million Africans were drawn into military service during that war as both soldiers and military laborers. France also relied upon African troops for the defense of its home front, and Britain sent thousands of South Africans to Europe as laborers. These experiences—both directly for participants and observers as well as indirectly for those who later heard about them—brought the reality of modern warfare fully into the African consciousness.

With the advent of renewed warfare between the European powers in 1939, Africans were again recruited for military service. Their most significant deployment on the continent was during the North African campaigns, where large numbers were trained as truck drivers. Other Africans served overseas, many in campaigns to repel the recent Japanese conquest of Southeast Asian territories as well as with units sent to Europe in the effort to turn back Nazi occupation. On returning home, these men frequently felt dissatisfied with the rewards they were given for their service; not infrequently they were soon after involved in various protests against continued colonial domination in Africa.

#### Contemporary African Warfare

One of the responses to these protests by former soldiers was the expansion of colonial military units and the advance of some Africans to officer corps. Thus, when the protests led to independence for many African colonial territories, the resultant new states came with readymade national armies. On the one hand these armies served as agents of nation building, employing increasing numbers of citizens and frequently engaging in publicworks activities. But on the other they were frequently agents for the settling of various disputes, both real and imagined, which came with the demands of European-induced concepts of sovereignty and nationality. In this context, any number of perceived slights or even ethnic differences could—and sometimes did—escalate into warfare.

The resulting pattern of conflict, well known from earlier examples of developing European nationalism, was civil war, mostly notably in Congo, Angola, Nigeria, Ethiopia, Mozambique, and Rwanda. Other African countries, including Uganda, Sierra Leone, and the long-independent Liberia, faced internal rebellion. Significant international peacekeeping efforts—including important initiatives of the Organization of African Unity (and its

successor, the African Union)—helped to reduce this new form of African warfare. Perhaps more significantly, other African countries, such as Zimbabwe and South Africa managed to avert postcolonial warfare, breaking the patterns of national violence that has plagued European nations since the sixteenth century.

Melvin E. Page

### **Further Reading**

Clayton, A. (1999). Frontiersmen: Warfare in Africa since 1950. London: UCL Press.

Davidson, B. (1992). The black man's burden: Africa and the curse of the nation-state. New York: Times Books.

Featherstone, D. F. (1992). Victorian colonial warfare: Africa. New York: Sterling.

Freeman-Grenville, G. S. P. (Ed.). (1965). *The French at Kilwa island*. Oxford, UK: Oxford University Press.

Gump, J. O. (1994). The dust rose like smoke. Lincoln: University of Nebraska Press.

Jeal, T. (1973). Livingstone. New York: Putnam.

Kenyatta, J. (1938). Facing Mount Kenya: The tribal life of the Gikuyu. London: Secker & Warburg.

Killingray, D., & Omissi, D. (Eds.). (1999). Guardians of empire. New York: St. Martin's Press.

Killingray, D., & Rathbone, R. (Eds.). (1986). Africa and the Second World War. New York: St. Martin's Press.

Marcus, H. G. (1994). *A history of Ethiopia*. Berkeley and Los Angeles: University of California Press.

Morris, D. (1967). The naked ape. New York: McGraw-Hill.

Moyse-Bartlett, H. (1956). *The King's African Rifles*. Aldershot, UK: Gale & Polden.

Niane, D. T. (1965). Sundiata: An epic of old Mali (G. D. Pickett, Trans.). London: Longman.

Page, M. E. (Ed.). (1987). Africa and the First World War. New York: St. Martin's Press.

Page, M. E. (2000). *The Chiwaya war: Malawians and the First World War.* Boulder, CO: Westview Press.

Rotberg, R. (Ed.). (2000). Peacekeeping and peace enforcement in Africa. Washington, DC: Brookings Institution Press.

Shack, W. A., & Skinner, E. P. (Eds.). (1979). Strangers in African societies. Berkeley and Los Angeles: University of California Press.

# Warfare—China

China, until very modern times, never faced an equally powerful, proximate civilization; warfare alternated between a unified China contesting with nomadic peoples on its borders and a China divided in



internal conflict. Warfare also alternated with the yin and yang of Chinese imperial power. Nomadic peoples never have exceeded several percent of China's population, and while they might conquer China, they could rule only by Sinicizing themselves.

China favored a model of warfare that combined military arts with psychological factors, including an indirect approach to battle, surprise, and deception. The result is the classic *Sunzi* (dating to China's Warring States era, 475–221 BCE) and some 2,500 years later, the theories of Mao Zedong (1893–1976) on peasant revolution and unconventional warfare. Defense, especially the building of walls around towns (the most famous such defense being the Great Wall), mattered more than offense. Also, China has never glorified its warriors, and few left memoirs such as Caesar's accounts of his battles in Gaul.

We know little of warfare in China prior to 600 BCE. China's Zhou dynasty (1045-256 BCE) ruled largely through familial and semifeudal relationships, not awesome military power. Sometime in the early eighth century BCE, the Zhou began to decline, and in 771 BCE invading nomads allied with rebel leaders sacked the capital and killed the Zhou king, marking the end of what is known as the Western Zhou period. Thereafter China began several centuries of increasingly violent warfare, culminating in triumph of the Qin dynasty and unification of China in 221 BCE. In this era, the Chinese relied on the bow—a larger, more powerful bow than was used by Greek, Persian, and early Roman armies and their opponents—and much less on swords, javelins, and battle axes, perhaps reflecting China's relatively slow transition from bronze to iron weapons.

During the Warring States period that preceded Qin unification of China, the chivalry that had supposedly hitherto characterized warfare disappeared, and, with the onset of iron weapons late in the Warring States period, armies grew larger, the role of nobles as warriors declined, and peasants figured prominently as foot soldiers. China did not rely on cavalry formations; the number of chariots one commanded was the indication of one's military power.

The Qin dynasty was short lived, lasting only until 206 BCE. The Qin relied on peasant armies and iron weapons to overwhelm China's foes and helped connect existing city walls to protect settled China from horsed nomads. Qin forces then began to move south of the Chang (Yangzi) River into present-day Fujian, Guangdong, and Guangxi and northeast into northern Korea.

### From Han to Tang

Qin's successor dynasty, the Han dynasty (206 BCE–220 CE), rivaled Rome for power, and began a long effort to control the northern nomads, the Xiongnu, and to gain control over the lands south of the Chang. To meet the barbarian threat, the Han valued cavalry more than their predecessors. From 121 to 119 BCE, the Han battled the Xiongnu in western China, using more than 100,000 cavalry; they prevailed and gained control of profitable trade routes to the west. The Han also moved into Manchuria and took over northern Korea to the Han River. In the first century CE the Han conquered the Tarim Basin, seized Turkistan, and may have reached the Caspian Sea.

But then the balance of power shifted in favor of the nomadic tribes. Revolts at home weakened Chinese power, the Han lost control of Turkistan, and nomads on the frontiers penetrated Chinese defenses, terrorizing the settled peoples on the North China Plain. In 220 CE the Han collapsed and a period of disunity followed, with various regional states coexisting until China was reunited under the short-lived Sui dynasty (581–618 CE). The Sui dynasty suffered from its attempt to do too much too soon. It pushed below the Chang watershed, and it attacked Korea four times without much success; that failure encouraged nomadic horsemen to attack and capture the emperor.

# The Tang and Song Dynasties

The Tang dynasty ruled China from 618 to 907 ce. The Tang capital, Changan, was the world's largest city and attested to its great military power. Under the Tang, the

To conquer the enemy without resorting to war is the most desirable.

The highest form of generalship is to conquer the enemy by strategy. • Sun-tzu (500 bce-320 bce)

Chinese first discovered and began using gunpowder, but as an explosive and not as a propellant. Curiously, this was roughly the same time that the Byzantine Empire perfected so-called Greek Fire, the formula for which still eludes experts today. Tang armies continued to make use of peasant infantry and aristocratic and nomadic horsemen. At its zenith, the Tang dynasty controlled northern Korea and Manchuria, south as far as the Red River delta, west into the Tibetan lowlands, and then along the trade route toward the Caspian Sea. Four defeats in the 750s, most notably a loss to rising Arab power in the Battle of Talas River (751 CE) and the An Lushan rebellion (755 CE), were followed by a series of increasingly costly peasant uprisings leading to a relatively rapid dynastic decline.

Once again Chinese military power faded and the nomads gained control. Frontier military commanders succeeded one another in the north, as non-Chinese nomads ruled the North China Plain. In the south, local military leaders ruled various areas. Even when the Song dynasty (960–1279) reunited much of China, its power was economic rather than military, and it relied on diplomacy and the paying of tribute to maintain peace. Nomadic groups continued to control the North China Plain. In time, the Jin, a nomadic ruling house, pushed the Song out of northern China, and from 1127 the Song controlled only the south. The Mongols overwhelmed the Jin and other northern nomads and in 1279 crushed the Song, establishing the Yuan dynasty (1279–1368) and bringing China and its periphery together under one ruling house for the first time since the Tang.

# The Mongols and the Ming

The Mongols were the greatest military force of the era. They were a horsed people, and they emphasized mobility, with Mongol horsemen having as many as fourteen mounts each, intricate formations, a variety of feints and ruses, and absolute brutality and cruelty to achieve quick victory. The Mongols were adaptive, using techniques of conquered people in one part of their vast empire to seize control elsewhere. They took northern China, but the

water-based transport, canals, and rivers of southern China stymied them until they learned how to adapt their tactics. The Mongols eventually learned to augment their limited forces, there likely were never more than 200,000 Mongol horsed soldiers total at any given time, with mercenaries from northern China, and learned to navigate the waterways of southern China. More interested in exploiting China than in ruling it, the Mongols spent funds lavishly and weakened themselves using Chinese and Korean troops in two failed invasions of Japan in the thirteenth century. The Mongols lacked the numbers to remain in power for long; they refused to Sinicize themselves, and the dynasty fell less than a hundred years after its establishment.

A resurgent ethnically Chinese dynasty, the Ming (1368–1644), followed the Mongols, but existed in a dangerous world. The Ming never secured control over the hinterlands and the trade routes to the northwest, where the Mongols remained a threat for many years. The Ming rebuilt the Great Wall to constrain the nomads. Later in the Ming era, Japanese ships raided the Chinese coast, and the Ming ordered the coastal population to move inland.

There was one bright moment in Ming military history, the great voyages of the Eunuch Admiral Zheng He. Zheng was a Mongol, whom the Chinese castrated, and he came to work for the Emperor, achieving an influential position. He led a vast Chinese fleet, with 20,000 sailors and 20,000 marines from China, into the Indian Ocean to the east coast of Africa, greatly impressing native rulers at the same time that Henry the Navigator of Portugal was sending individual ships with perhaps a company of sailors to find a route around Africa to the east. But Zheng and sea power was a passing event, and the Ming, never as powerful as the Han or Tang Dynasties, weakened as Chinese officials and military experts defected to a rising power in the Northeast.

## The Qing

As the Ming declined, the tribal Manchus in the northeast adopted the trappings of a Chinese dynasty; in 1644 they defeated the Ming and established the Qing dynasty

The Great Wall of China at Simatai. The wall was built over the centuries to keep Mongol invaders from the north out of China and was not very effective.

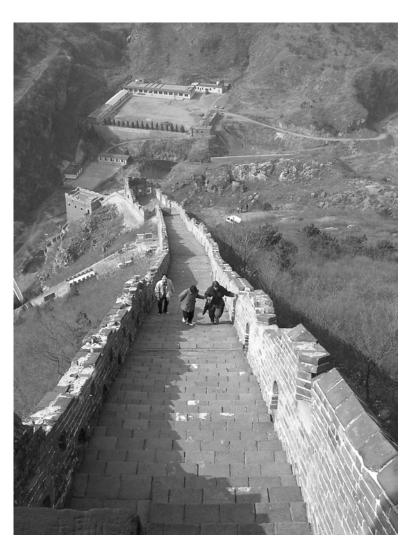
(1644-1912). Militarily, they organized themselves into companies that were known by the color of their banners (hence this system was known as the Banner system), and they incorporated conquered troops into similar units. With these troops the Qing rulers soon extended their control over the Mongols and Tibetans, and under the great Kangxi emperor (1654-1722; reigned 1661-1722) even limited Russian expansion eastward with the Treaty of Nerchinsk (1689).

The reign (1735–1796) of the Qianlong emperor (1711–1799) marked the high point of the Qing dynasty, after which it rapidly declined. Increasing Western presence in China led eventually to military conflict; two Opium wars (one with the British in 1839-1842; one with the French in 1856–1860) demonstrated the weakness of the Qing, whose Banners had lost their fighting edge and whose firearms had not been updated since they were first gained from Portuguese and Dutch traders in the 1600s. Foreign governments encroached on Chinese sover-

eignty with impunity. The great Taiping Rebellion (1850– 1864) further exposed Qing weakness; it was only put down with aid from Western powers (the United States and the British) and privately organized Chinese armies. The so-called Boxer Rebellion (1900), which had an anti-Western bent and emphasized martial arts, was also put down with international aid. In 1912 the last Qing emperor abdicated, and China became a republic, albeit one plagued by regional warlordism and foreign spheres of influence.

### Wars of the Twentieth Century

Japan's imperialist visions led it to seize Manchuria in 1932; its aggression in China did not end there, however, and by 1937 the two nations were in a state of war. Equally pressing in the eyes of the Chinese Nationalists the nominal government of China—however, were the



Communist rebels. Chiang Kai-shek (1887–1975), the Nationalist leader, used German advice and equipment to blockade the Communist base camp in the mountainous southeast, and in October 1933, Mao fled with 90,000 supporters on the famous Long March first southwest, then west, north, and eventually northeast, where 8,000 survivors straggled into Yan'an in Shaanxi. At that point Chiang was reluctantly persuaded to put aside his quarrel with the Communists and to join with them to fight the Japanese.

With the end of World War II, China's civil war resumed in earnest. The Nationalists had support from the United States, which opposed Communism, but the Communists had greater popular support and better military tacticians in Lin Biao (1907-1971?) and Zhu De (1886–1976). In accordance with Mao's theories of guerrilla warfare, the People's Liberation Army operated in small groups, seeking to overwhelm isolated detachments of larger Nationalist Army forces. Communist cadres emphasized the psychological, preparing their men and seeking to convert their enemy. In time, as Communist strength increased and Nationalist forces weakened, the Communists fought in larger units, and in 1948, large, well-armed, Communist armies with more traditional tactics compelled the surrender of Chiang's best troops. won the Battle of the Huai Hai, destroying another 500,000 Nationalist troops. In April 1949 Mao's forces crossed the Chang River in many places, and by December 1949, Chinese Communist units had reached as far as southern China and the Vietnamese border.

Since gaining control of the mainland in 1949, the Communist rulers of China have fought only to defend what they perhaps broadly define as their interests. Worried about the intent of the UN forces moving to the Yalu River in October and November 1950, China intervened in the Korean War. Following attack and counterattack into April 1951, the front in Korea largely stabilized, and an armistice in July 1953 ended the outright confrontation of the People's Republic of China and the United States.

There have been border disputes with India in 1962 and in 1979 with Vietnam, and there continues to be tension over the fate of the island of Taiwan, where the Nationalists established themselves after losing the mainland. China conducted its first nuclear test in 1964, joining the ranks of the world's nuclear powers. Today the world's most populous nation and the world's third-largest nuclear power, China's military strength is sobering.

Charles M. Dobbs

Chi, H. (1982). *Nationalist China at war: Military defeats and political collapse.* Ann Arbor: University of Michigan Press.

Cottrell, L. (1962). The tiger of Qin: The dramatic emergence of China as a nation. New York: Holt, Rinehart, & Winston.

Ellemen, B. A. (2001). Modern Chinese warfare, 1795-1989. New York: Routledge.

Graff, D. A., & Higham, R. (Eds.). (2002). A military history of China. Boulder, CO: Westview Press.

Hail, W. J. (1964). Tseng Kuo-fan and the Taiping Rebellion, with a short sketch of his later career. New York: Paragon Book Reprint Corporation.

Hooten, E. R. (1991). The great tumult: The Chinese civil war, 1936–1949. New York: MacMillan.

Hsiung, J. C., & Levine, S. I. (Eds.). (1992). China's bitter victory: The war with Japan, 1937–1945. Armonk, NY: M. E. Sharpe.

Kierman, F. A., Jr., & Fairbank, J. K. (Eds.). (1974). Chinese ways in warfare. Cambridge, MA: Harvard University Press.

Levathes, L. (1994). When China ruled the seas: The treasure fleet of the Dragon Throne, 1400–1433. New York: Simon & Schuster.

Loewe, M. (1974). Crisis and conflict in Han China, 104 BC to AD 9. London: Allen & Unwin.

Mote, F. W. (1999). *Imperial China*, 900–1800. Cambridge, MA: Harvard University Press.

Peers, C. (1998). Warlords of China: 700 BC to AD 1662. London: Arms and Armour Press.

Powell, R. L. (1955). The rise of Chinese military power, 1895–1912.Princeton, NJ: Princeton University Press.

Salisbury, H. E. (1985). *The Long March: The untold story.* New York: Harper & Row.

Scobell, A. (2003). China's use of military force: Beyond the Great Wall and the Long March. New York: Cambridge University Press.

Torday, L. (1997). Mounted archers: The beginnings of Central Asian history. Cambridge, MA: Durham Academic Press.

Westad, O. A. (2003). Decisive encounters: The Chinese civil war, 1946– 1950. Stanford, CA: Stanford University Press.

Wilson, A. (1976). The "ever-victorious army": A history of the Chinese campaign under Lt. Col. C. G. Gordon and of the suppression of the T'ai-ping rebellion. Arlington, VA: University Publications of America.

Wilson, D. (1971). The long march, 1935: The epic of Chinese Communism's survival. New York: Viking Press.

Wilson, D. (1982). When tigers fight: The story of the Sino-Japanese war, 1937–1945. New York: Viking Press.

Xiao, Q. (1978). The military establishment of the Yuan dynasty. Cambridge, MA: Harvard University Press.

### **Further Reading**

Appleman, R. E. (1989). Disaster in Korea: The Chinese confront MacArthur. College Station: Texas A&M University Press.

Brent, P. L. (1976). The Mongol empire: Genghis Khan, his triumph and his legacy. London: Weidenfeld & Nicholson.

Chan, A. (1982). The glory and fall of the Ming dynasty. Norman: University of Oklahoma Press.

Chassin, L. M. (1965). The Communist conquest of China: A history of the civil war, 1945–1949. Cambridge, MA: Harvard University Press.

# Warfare—Europe

Warfare has riddled Europe since antiquity, especially in the nineteenth and twentieth centuries when armed European conflicts had an impact on the whole world.

# The Black Arrow—A Tale Of The Two Roses by Robert Lewis Stevenson

This scene opens a novel by Robert Lewis Stevenson, author of Treasure Island. It is set in England during the War of the Roses (1455 to 1487).

On a certain afternoon, in the late springtime, the bell upon Tunstall Moat House was heard ringing at an unaccustomed hour. Far and near, in the forest and in the fields along the river, people began to desert their labours and hurry towards the sound; and in Tunstall hamlet a group of poor country-folk stood wondering at the summons.

Tunstall hamlet at that period, in the reign of old King Henry VI, wore much the same appearance as it wears to-day. A score or so of houses, heavily framed with oak, stood scattered in a long green valley ascending from the river. At the foot, the road crossed a bridge, and mounting on the other side, disappeared into the fringes of the forest on its way to the Moat House, and further forth to Holywood Abbey....

Hard by the bridge, there was a stone cross upon a knoll, and here the group had collected—half a dozen women and one tall fellow in a russet smock—discussing what the bell betided. An express had gone through the hamlet half an hour before, and drunk a pot of ale in the saddle, not daring to dismount for the hurry of his errand; but he had been ignorant himself of what was forward, and only bore sealed letters from Sir Daniel Brackley to Sir Oliver Oates, the parson, who kept the Moat House in the master's absence.

But now there was the noise of a horse; and soon, out of the edge of the wood and over the echoing bridge, there rode up young Master Richard Shelton, Sir Daniel's ward. He, at the least, would know, and they hailed him and begged him to explain. He drew bridle willingly enough—a young fellow not yet eighteen, sun-browned and grey-eyed, in a jacket of deer's leather, with a black velvet collar, a green hood upon his head, and a steel cross-bow at his back. The express, it appeared, had brought great news. A battle was impending. Sir Daniel had sent for every man that could draw a bow or carry a bill to go post-haste to Kettley, under pain of his severe displeasure; but for whom they were to fight, or of where the battle was expected, Dick knew nothing. Sir Oliver would come shortly himself, and Bennet Hatch was arming at that moment, for he it was who should lead the party.

"It is the ruin of this kind land," a woman said. "If the barons live at war, ploughfolk must eat roots."

"Nay," said Dick, "every man that follows shall have sixpence a day, and archers twelve."

"If they live," returned the woman, "that may very well be; but how if they die, my master?"

"They cannot better die than for their natural lord," said Dick.

"No natural lord of mine," said the man in the smock. "I followed the Walsinghams; so we all did down Brierly way, till two years ago, come Candlemas. And now I must side with Brackley! It was the law that did it; call ye that natural? But now, what

# Major Periods of Warfare in Europe

Roman warfare dominated Europe from 100 BCE to 250 CE. The migration of nations culminated with the Huns invading Europe from 375 onward. Europeans stopped Muslim invaders in 732 CE (at Poitiers and Tours). In 793 CE, Vikings from northern Europe first attacked the British Isles (at Lindesfarne). From 1096 Europeans several times invaded the Holy Land ruled by

Muslims. In the fourteenth and fifteenth centuries, France and Britain fought the Hundred Years War. After the discovery of the Americas by Columbus in 1492, European warfare was exported overseas. Religious warfare started in the sixteenth century, especially in France and Germany. From 1618 the Thirty Years War involved large parts of Europe, thus culminating the internal religious feuds with a hitherto unknown destruction, which ended with the Treaty of Westphalia. During the seventeenth and eighteenth centuries, a continuous series of wars of

with Sir Daniel and what with Sir Oliver—that knows more of law than honesty—I have no natural lord but poor King Harry the Sixt, God bless him!—the poor innocent that cannot tell his right hand from his left."

"Ye speak with an ill tongue, friend," answered Dick, "to miscall your good master and my lord the king in the same libel. But King Harry—praised be the saints!—has come again into his right mind, and will have all things peaceably ordained. And as for Sir Daniel, y' are very brave behind his back. But I will be no tale-bearer; and let that suffice."

"I say no harm of you, Master Richard," returned the peasant. "Y' are a lad; but when ye come to a man's inches, ye will find ye have an empty pocket. I say no more: the saints help Sir Daniel's neighbours, and the Blessed Maid protect his wards!"

"Clipsby," said Richard, "you speak what I cannot hear with honour. Sir Daniel is my good master, and my guardian."

"Come, now, will ye read me a riddle?" returned Clipsby. "On whose side is Sir Daniel?"

"I know not," said Dick, colouring a little; for his guardian had changed sides continually in the troubles of that period, and every change had brought him some increase of fortune.

"Ay," returned Clipsby, "you, nor no man. For, indeed, he is one that goes to bed Lancaster and gets up York."

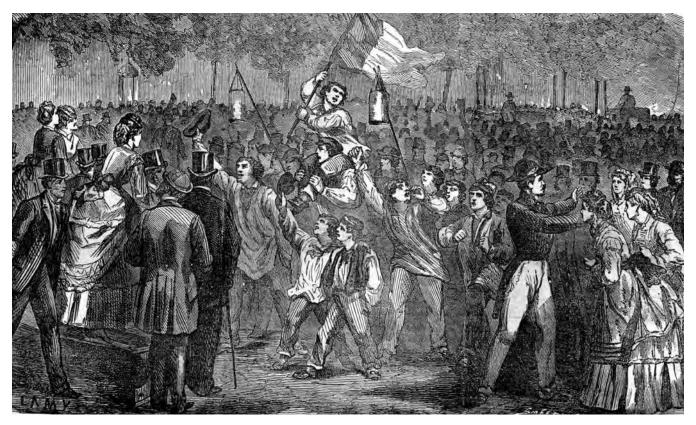
Source: Stevenson, R. L. Retrieved August 5, 2004, from http://www.e-text.org/text/Stevenson,%20Robert%20Louis%20%20-%20The%20black%20arrow.txt

monarchial succession riddled Europe; the European colonies overseas were part and object of these wars. In the 1770s England lost its most important colony, when its American colonies declared their independence. From 1792 to 1815 wars against revolutionary and Napoleonic France were fought by several coalitions sponsored by the British. A relatively peaceful era ended with the advent of the Crimean War, Britain, France, and Turkey against Russia in the 1850s, and with the emergence of Prussia as a dominant and aggressive power in

a newly unified Germany in the 1860s. The first decade of the twentieth century saw the defeat of Russia by Japan in the Far East and several wars in the Balkans, which foreshadowed the Great War (World War I) fought from 1914 to 1918. Defeated in the First World War, Germany's expansionist foreign policy was again the cause of a general European—and eventually world—war that began in 1939. When Germany and its allies Italy and Japan were defeated in 1945, the militarily dominant powers in Europe became the United States and the Soviet Union. From the late 1940s to 1989-1990, Europe was the center of the Cold War in a relative stable peace guaranteed by the nuclear stalemate between the two superpowers. Britain, France, and other European powers lost their major colonies in Africa and Asia in the postwar years. After the end of the Cold War, the nations of Europe created a zone of peaceful cooperation with the European Union at its center. But there were still violent spots on the fringes of Europe, especially in the civil wars following the collapse of Yugoslavia. After the terrorist attacks on the United States on September 11, 2001, Europe finds itself divided about the extent of its participation in the "War on Terror."

# **European Combatants**

The European warrior has changed several times, being a professional man at arms in some eras or part of a more general population in arms in others. Whereas the Roman army must be considered to be a professional army, at times partially composed of foreign mercenary troops, the Celtic, Gallic, Germanic, and other tribes were a sort of a complete—at least male—population in arms. With the concept of chivalry the Middle Ages developed a warrior caste that went far beyond a professional fighting force, as it was an integral part of the medieval society itself. When technological change made chivalry obsolete in military terms, a more modern form of a professional warrior emerged with the mercenary (a remainder can still be seen today with the Swiss Guard of the pope). The absolute states of the seventeenth and eighteenth centuries needed more men than could be provided by expensive mercenaries for their "cabinet wars,"



Parisians rally in support of France during the Franco-Prussian War (1870-1871), crying out, "Vive la guerre!" ("Long live the war!")

but the forced recruitment at that time fell short of putting the entire male population in arms, as economic constraints (need of large numbers of peasants) and a static society (only noblemen as officers) restricted the growth of armies. The French Revolution brought an entire population to arms, whereas it wasn't until late in the nineteenth century that a complete conscription system for the whole male population was in place. (Britain introduced it only in World War I.) After World War II and especially after the Cold War the sophistication of armament (with the time-consuming process of learning to manage these arms) led to a replacement of the conscript soldier by a voluntary system of recruitment in all sophisticated European armies.

## Armaments from the Middle Ages to the 1800s

Archers—and archery as a technological invention decided the Battles of Crecy (1346) and Agincourt (1415). In the thirteenth century gunpowder was first mentioned in Europe, but it became a decisive factor in warfare only in the late fourteenth century. Then, of course, it changed warfare forever and soon made the castles of the Middle Ages obsolete. At the start the individual armaments of warriors and canons were crude but improved in both the efficiency and the accuracy. At about 1500 the development of the flintlock made small arms more practical in combat. The sixteenth and seventeenth centuries saw all sorts of improvements of smallarms and canons. The art of fortifications also improved dramatically—defense against new, powerful armament was taken into account and canons were integrated into the planning of fortresses, providing them with an ideal range of fire. In the late eighteenth century several new explosives were developed, whereas in the nineteenth century industrialization modernized arms production. The 1850s and 1860s are generally regarded as the beginning of modern warfare in an industrial society. The Crimean War and the Civil War introduced many modern features to warfare, among them the use of railways for transport of troops and matériel. Another feature new to these wars was journalistic and photographic war

# Selection from the Treaty of Westphlia (October 24. 1648)

The Peace of Westphalia produced a series of treaties that ended the Thirty Years War between France and the Holy Roman Empire and eighty years of war between the Dutch and Spanish and is considered by historians to mark the emergence of the state as the primary political entity in Europe.

I. That there shall be a Christian and Universal Peace, and a perpetual, true, and sincere Amity, between his Sacred Imperial Majesty, and his most Christian Majesty; as also, between all and each of the Allies, and Adherents of his said Imperial Majesty, the House of Austria, and its Heirs, and Successors; but chiefly between the Electors, Princes, and States of the Empire on the one side; and all and each of the Allies of his said Christian Majesty, and all their Heirs and Successors, chiefly between the most Serene Queen and Kingdom of Swedeland, the Electors respectively, the Princes and States of the Empire, on the other part. That this Peace and Amity be observ'd and cultivated with such a Sincerity and Zeal, that each Party shall endeavour to procure the Benefit, Honour and Advantage of the other; that thus on all sides they may see this Peace and Friendship in the Roman Empire, and the Kingdom of France flourish, by entertaining a good and faithful Neighbourhood.

Source: The Avalon Project at Yale Law School. Retrieved March 30, 2003, from www.vale.edu/lawweb/avalon.

reporting, which have affected propaganda and morale in all wars since. The construction of the needle gun and its use by the Prussian army was essential for the Prussian victories in the 1860s and early 1870s. In the 1880s the first modern machine guns were constructed.

## Armaments in the Twentieth Century

Even though small arms, grenades, and artillery became more and more sophisticated right up to the outbreak of World War I, when the most modern European armies (France, Britain, and Germany) clashed in 1914, the industrialized form of warfare that had developed led to a stalemate, as the sophisticated weaponry became entrenched and speed as a factor of warfare disappeared. What became known as mechanized warfare is therefore the attempt to reintroduce speed to the industrialized battlefield. It started with tanks on the Western Front late in World War I but came to full effect first in the German "lightning wars" during the early phases of World War II (against Poland in 1939 and France in 1940). Part of this reinvention of speed was airpower, which was first used during World War I, but became a major form of weaponry only during World War II (for example, with the German bombing of Warsaw, Rotterdam, and London; the Battle of Britain; Allied strategic bombing of Germany and Japan). The introduction of the so to speak mother of all weapons, the atomic bomb, in 1945 was largely the result of European expertise, but it was first constructed in the United States and, fortunately for Europe, only used twice against Japan. The collapse of Nazi Germany and the coming of the Cold War led to the largest accumulation ever not only of nuclear weapons but also of conventional weaponry. Almost as impressive, although only a secondary force in the nuclear age, were the Soviet tank armies. Western Europe and foremost the United States countered that threat in numbers by developing more sophisticated weaponry. The U.S.-sponsored arms race in the 1980s was one of the factors that led to the technological and economic collapse of the Soviet Union. After the end of the Cold War in the late 1980s and early 1990s, the picture of armament in Europe became somehow confusing and at times contradictory: Europe seems to be largely at peace, with conventional, if not to say archaic, forms of warfare on the fringe (wars in former Yugoslavia in the 1990s). Europe has suffered the modern form of terrorism (bombing in Madrid in 2004), where crude weaponry is used to create terror among the civilian population. Some Western European countries (especially France, Britain, Germany, and Italy) have the technical and technological capabilities for up-to-date armament, but financial constraints Neither ridiculous shriekings for revenge by French chauvinists, nor the Englishmen's gnashing of teeth, nor the wild gestures of the Slavs will turn us from our aim of protecting and extending German influence all the world over. • Anonymous

keep European armament well behind that of the United States in the age of information warfare. Soviet-style mid-twentieth-century weaponry from Europe like the (in)famous Kalashnikov or the Scud missiles (the latter with West German "improvements") still play a major role in conflicts all over the world—except in Europe.

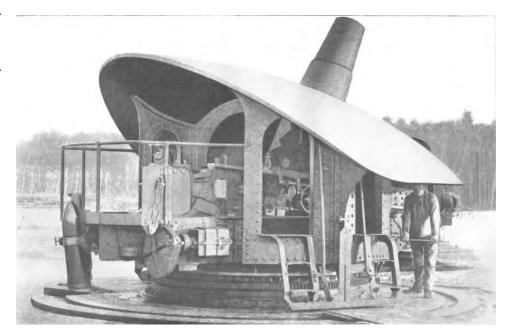
#### **Naval Armaments**

The development of weaponry was not limited to land and air: Some European nations (first Spain and Portugal, later Britain, France, and the Netherlands) relied heavily on navies for European dominance and for conquest and control of their interests and colonies outside Europe. The process of developing warships was quite comparable to the development of armaments on land with regard to the introduction of powder and canons. Napoleon was probably not so much halted at Waterloo (1815) but at Trafalgar when he lost the naval capability to defeat Britain (1805). During the second half of the nineteenth century, metal replaced wood as the basic construction material for warships. Although the first serious submarines were built in the nineteenth century, it took World War I and the German U-boats to give the submarine a decisive role in warfare. And what is sometimes

underestimated is the importance of the development of naval tactics in both world wars against assaults by submarines. The intervention of the United States in both world wars was due in part to the Allied capabilities control—mostly by superiority in production against loss in combat—the sea against German submarine attacks. It was essential to keep the logistic supply running between the United States and Britain/ France in World War I and between the United States and Britain/Soviet Union in World War II. The largest crossing of armies and supplies ever took place on D-Day (6 June 1944), when the Allied forces crossed the Channel from Britain to France to liberate Europe from Nazi rule. During the Cold War nuclear-powered and nucleararmed submarines became the last resort in any strategy of deterrence. In the "War on Terror" Europe has to guard with its navies the Bosporus and the Strait of Gibraltar; European navies also participate in guard missions in African and Asian waters.

#### Price of Warfare

Modern Europe has faced on at least four occasions a complete destruction of large parts of its territory: during the Thirty Years War, during the wars of the French Revolution and the Napoleonic Wars, and during both world wars. The human loss of those conflicts was exorbitant: to give only the most impressive and depressing figures of World War II: over 20 million dead in the Soviet Union alone (more than a third of that number being civilians) and well over 50 million dead worldwide. (The Holocaust as the industrialized mass killing of civilians



A pre-World War I German howitzer and shield.

Justice will not come to Athens until those who are not injured are as indignant as those who are injured. • Thucydides (d. c. 401 bge)

also has to be mentioned in this context, as it was an integral part of the German war effort in World War II.) The destruction of cities and agricultural land was enormous and considerably hampered postwar development in Europe. At the end of World War II the (only partly European) Soviet Union and the United States emerged as superpowers, whereas France, Britain, and Germany lost to different degrees their former roles as global powers.

# European Warfare and the Postwar World

The Greeks and Romans went well beyond the European borders in their conquests. In the Middle Ages out of religious fanaticism and for economic purposes large parts of the western European chivalry participated in the Crusades. When the pope divided the world between Spain and Portugal in the Treaty of Tordesillas (1494), the conquest of the "rest" of the world by Europe after the discovery of the Americas (1492) started. What would soon become the United States began to emerge from a group of British colonies in 1776. But European colonization only peaked on the eve of World War I and the process of decolonization went on well into the second half of the twentieth century.

As a result of World War II all global players in Europe except the Soviet Union were reduced in importance. When the Cold War ended, many Europeans hoped for an "eternal peace": in Europe as envisaged by enlightenment philosophers like Kant in the eighteenth century. The wars in the former Yugoslavia and the emergence of Islamist terrorism put an end to those dreams.

Oliver Benjamin Hemmerle

See also World War I; World War II

# **Further Reading**

Bruce, G. (1979). *Harbottle's dictionary of battles*. London: Granada. Chandler, D. G. (Ed.). (1987). *The dictionary of battles*. London: The Paul Press.

Chandler, D. G. (1996). Atlas of military strategy: The art, theory and practice of war, 1618–1878. London: Arms and Armour.

Clausewitz, C. v. (1984). On war. Princeton, NJ: Princeton University Press.

Corvisier, A. (Ed.). (1997). *Histoire militaire de la France* [Military History of France] (Vols. 1–4). Paris: Presses Universitaires de France.

DeGaulle, C. (1990). Le Fil de l'Epee et autres ecrits [On the Edge of the Sword and Other Writings]. Paris: Plon.

Delbrueck, H. (2000). Geschichte der Kriegskunst im Rahmen der politischen Geschichte [History of the Art of War in the Context of the Political History] (Vols. 1–4). Berlin: de Gruyter.

Doughty, R. A., & Gruber, I. D. (1996). Warfare in the western world (Vols. 1–2). Lexington, MA: Heath.

Frankland, N. (1989). The encyclopedia of twentieth-century warfare. NY:
Orion

Harding, D. (Ed.). (1990). Weapons: An international encyclopedia 5000 BC to 2000 AD. London: Macmillan.

Hart, L. (1970). History of the First World War. London: Cassell.

Hart, L. (1970). History of the Second World War. London: Cassell.

Hobbes, N. (2003). Essential militaria. London: Atlantic Books.

Howard, M. (1977). War in European history. Oxford: Oxford University Press.

Militaergeschichtliches Forschungsamt (Ed.). (1983). Deutsche Militaergeschichte 1648-1939 [German Military History 1648-1939] (Vols. 1–6). Herrsching: Pawlak.

Militaergeschichtliches Institut der Deutschen Demokratischen Republik (Ed.). (1985). Woerterbuch zur deutschen Militaergeschichte [Dictionary of the German Military History] (Vols. 1–2). Berlin (East): Militaerverlag der Deutschen Demokratischen Republik.

Natkiel, R., & Preston, A. (1992). Atlas of maritime history. London:

Neugebauer, K.-V. (Ed.). (1993). Grundzuege der deutschen Militargeschichte [Outline of German Military History]. Freiburg: Rombach.

Nicolle, D. (1998–1999). Medieval warfare source book (Vols. 1–2). London: Brockhampton Press.

Ortenburg, G. (1984–1993). *Heerwesen der Neuzeit* [Military System of Modern Times] (Vols. 1–10). Koblenz: Bernard & Graefe.

Paret, P. (Ed.). (1986). Makers of modern strategy from Machiavelli to the nuclear age. Princeton, NJ: Princeton University Press.

# Warfare— Islamic World

The spread of Islam and the conquests of Muslim armies in the decades that followed the death of the Prophet Muhammad in 632 were events of world historical significance that have had far-reaching consequences down to our own time. By 650, Palestine, Syria, Egypt, Iraq, and Iran had been conquered. Under the Umayyad dynasty (661–750) the Islamic caliphate

# Call for a Separate Homeland for Muslims in South Asia

At the March 1940 meeting of the Muslim League in Lahore, League leader Mohammad Ali Jinnah called for a separate homeland for Muslims. Such a homeland was established in Pakistan but it did not end conflict among Hindus and Muslims in India nor in South Asia in general.

As far as our internal position is concerned we have also been examining it and, you know, there are several schemes which have been sent by various well-informed constitutionalists and others who take interest in the problem of India's future constitution, and we have also appointed a sub-committee to examine the details of the schemes that have come in so far. But one thing is quite clear. It has always been taken for granted mistakenly that the Mussulmans are

a Minority and of course we have got used to it for such a long time that these settled notions sometimes are very difficult to remove. The Mussulmans are not a Minority. The Mussulmans are a nation by any definition. The British and particularly the Congress proceed on the basis, "Well, you are a Minority after all, what do you want?" "What else do the Minorities want?" Just as Baba Rajendra Prasad said. But surely the Mussulmans are not a Minority. We find that even according to the British map of India we occupy large parts of this country, where the Mussulmans are in a majority—such as Benga, the Punjab, North-West Frontier Province, Sind and Baluchistan.

Source: Sharma, J. S. (1965). *India's struggle for freedom: Select documents and sources*. Vol. 2 (pp. 521–522). Delhi, India: S. Chand & Co.

stretched from Spain in the west to India in the east and from southern Arabia to Central Asia. Although the caliphate dissolved into many Muslim states as early as the eighth century, Islam continued to spread among new peoples, including the Turks and the Persians, who both were to play major roles in Islamic history. Although no Muslim state existed in Spain by the sixteenth century, Islam made new advances in the Balkans and central Europe under the Ottoman Turks (c. 1300–1922). Of the major sixteenth-century Islamic empires, the Ottomans controlled parts of Hungary, the Balkans, Anatolia, and most of the Middle East, the Safavids (1501-1722/ 1736) ruled over Persia and parts of Iraq and Afghanistan, and the Mughals (1526–1857) conquered much of India. Although military conquest were important in the spread of Islam, in territories outside the effective radius of Muslim armies, such as the Indonesian archipelago, the Malay peninsula, and parts of Africa, mass conversion was achieved via merchants and missionaries, making the spread of Islam in those regions a cultural rather than a military advance.

# The Expansion of Islam

Historians have tried to explain the remarkably swift and enduring Muslim conquests in many ways. Some have stressed the relative weakness of their opponents; others have stressed the effects of the plague or the power of the new religion (Islam) and ideology (jihad). Still others have emphasized the personal qualities of the first caliphs, the Ottoman sultans, and the founders of the Safavid and Mughal empires, as well as the valor of Muslim fighters. To this long list we should add the ability of Muslim rulers to establish professional armies and effective state bureaucracies and financial organizations.

Building on the foundations of Caliph 'Umar (reigned 634–644), who established the first garrison towns and the first registers of the names and salaries of the troops, the Umayyads completed the transformation of a tribal migration into a professional army. Around 700, the soldiers in the garrison cities throughout the caliphate might have numbered some 250,000 men. The soldiers were paid in minted coins and supported by an efficient logistical system and bureaucracy.

Starting in the 830s, the Abbasid dynasty (749/750–1258) began to recruit Turkish-speaking mounted archers from Central Asia, predominantly as slave-soldiers. Though only a couple of thousand in number, their new military technique (mounted archery), tactics (feigned retreat), skills in horsemanship, and superior horses added considerably to Muslim armies' speed, maneuverability, and firepower. Soon, most Muslim armies were dominated by Turkish soldiers.

The military slave system not only revolutionized Muslim warfare, it also had far-reaching political consequences. Recruited from among outsiders with no "political baggage" and entirely dependent on the state for its subsistence, the slave soldiers were a loyal and effective force. However, isolated from the rest of the society, their main concern was to preserve their status by dominating the government and policy. This led to the Abbasids' loss of control over their empire and the emergence of local dynasties and military dictatorships as well as to bitter wars among competing dynasties.

In the west, the Spanish Umayyads (756–1031), Almohads (1130-1269), and the Nasrids (1230-1492) not only held on to their conquests for shorter or longer periods in Spain, they also established flourishing cultural centers (Cordova, Seville, Granada). In the east, the Turkish Ghaznavids of Afghanistan (977-1187) spread Islam to the Punjab, laying the foundations of the religious division of the Indo-Afghan frontier, the latest consequences of which have been the creation of Pakistan in 1947 and the conflict between Pakistan and predominantly Hindu India.

In the wars within Islam, the division between Sunni and Shiite Muslims played a crucial role. The Shiite Buyids (c. 945-1055) and Fatimids (909-1171) launched several campaigns against their Sunni rivals. The Buyids' rule was ended by the Sunni Seljuks (1038–1157), while the Fatimid empire was extinguished by Saladin (1137/38-1193), the founder of the Ayyubids of Egypt (1169– 1252). Saladin also distinguished himself against the Crusaders, defeating them in the battle of Hattin (1187) and recapturing Jerusalem, Islam's third-holiest place.

Of the conflicts with non-Muslims, the Mongol invasion in the 1250s had far grater impact on the history of the Islamic heartlands than the Crusades. In 1258 Hülegü, Genghis Khan's grandson, eliminated the last vestiges of the Abbasid caliphate. However, in 1260 the Mongols were defeated in Syria and driven back by the Mamluks of Egypt. The Mamluk sultanate (1250–1517) was the most sophisticated of the military states set up by Turkish slave soldiers in the Middle East, with a mobilizable professional cavalry numbering between 40,000 and 70,000 in the late thirteenth century.

The experience of the various Islamic states with firearms varied greatly and the nature, success, or failure of this experience depended on historical, social, economic, and cultural factors rather than on religion. The Ottomans were especially successful in integrating gunpowder technology into their land forces and navy. Preceding their Muslim and Christian rivals, in the fifteenth century the Ottomans set up permanent troops specialized in the manufacturing and handling of firearms: artillerymen, armorers, bombardiers, grenadiers, and the Janissaries, the sultan's elite slave-soldiers, recruited through the child levy from among the empire's Christian population. The Ottomans also established a robust arms industry that made their empire largely self-sufficient in weapons and ammunition until the mid-eighteenth century. Favorable geopolitical location, ample resources, efficient central and provincial bureaucracy, talented statesmen, welltrained and well-equipped professional soldiers, and superior logistics made the Ottoman army, with a deployable troop strength of 80,000 to 100,000, a formidable force.

## Crescent and Cross before the Nineteenth Century

Eurocentric narratives of Islamic history concentrate on the clash between Crescent and Cross, as well as on the supposed superiority of the "West." However, wars within Islam and against non-Muslim enemies other than Christians were equally important. Similarly, the triumph of the West is largely a phenomenon of the nineteenth and twentieth centuries, and to project that triumph back into earlier centuries is anachronistic.

While the Ottomans devoted considerable resources to their wars against their Christian opponents (Byzantium, Venice, Hungary, Habsburg Spain and Austria, Portugal, and Russia), they also absorbed a dozen or so Turkish-Muslim principalities in Anatolia (fourteenth and fifteenth centuries), were defeated by Timur (1402), destroyed the Mamluk sultanate (1516-1517), and fought countless and exhausting wars against their Safavid Shiite neighbor, Persia.

For the Safavids, not Portuguese imperialism, but the Ottomans, the Mughals, and the Shaybanid Uzbeks of My Palestinian intellectual friend tells me that he might be willing to admit that God in Hebrew said Jews could have Israel. But he said Allah did not speak it in Arabic to the Arabs. • Arthur Hertzberg (b. 1921)

Transoxania were the major threat. Safavid rule was ended by the Ghilzai Afghans of Kandahar in 1722. The Afghans in turn were overthrown by Nadir Shah (1736–1747), an able Turkmen general from Khorasan. Nadir waged wars against Persia's traditional enemies, the Ottomans and Mughals.

When Muslim and Christian armies clashed in the sixteenth and seventeenth centuries, usually the Muslims had the upper hand. All this changed in the late eighteenth century. Russian success against the Ottomans (1768–1774, 1783, 1787–1791) and Napoleon's invasion of Egypt (1798) signaled the shift in power between Islam and the West.

#### The Long Nineteenth Century

In response to European expansion, nineteenth-century Muslim rulers attempted to modernize their armies along European lines. While initial reforms concentrated on the technical aspects of warfare and thus brought only limited results, the destruction of the Janissaries by Sultan Mahmud II (reigned 1808–1839), the introduction of conscription by Muhammad Ali of Egypt (reigned 1805– 1848) in the 1820s and by the Ottomans in 1838, and the establishment of military and naval academies and schools, staff colleges, and war ministries in Egypt and the Ottoman empire were more significant reforms. Modernized Egyptian and Ottoman armies were successful against local guerrilla forces and insurrections, but were defeated by the combined forces of nationalism and Great Power imperialism. France occupied Algeria in 1830, while Britain occupied Egypt in 1882, chiefly to control the Suez Canal. Due to Great Power intervention. a series of national states were carved out in the Ottoman Balkans, and by 1878 Istanbul had lost most of the peninsula. However, thanks to improved administration and communication made possible by the railway and the telegraph, the Ottomans not only kept Anatolia and the Arab lands, but under Abdülhamid II (reigned 1876-1908) they asserted firmer control over these lands.

During the nineteenth century, warfare also became more destructive for noncombatants. Serbian, Bulgarian, Greek, and Armenian Christian rebels, insurgents, and guerrilla forces, often with Russian support, killed Muslim civilians in the Balkans and Anatolia. Ottoman irregulars, often composed of recently arrived Muslim refugees expelled from Russian-conquered lands, and the regular Ottoman army retaliated with ferocity. About 600,000 Armenians perished in the Armenian massacres of 1915–1916 alone, while the number of Ottoman Muslim victims—those who perished or were killed or expelled from territories occupied by Christians—between 1821 and 1922 is estimated at about 10 million.

The military came to play an important role in politics. In the Ottoman empire, the coup of the "Young Turk" officers restored the constitution and left the government in civilian hands until 1913, when a military dictatorship took over. When the empire was defeated, occupied, and truncated by the victors of World War I, another Young Turk officer, Mustafa Kemal (Atatürk), led a successful war of liberation and created a secular nation-state, the Turkish republic. In Persia, Reza Khan, the leader of a Cossack brigade, seized power in 1921 and proclaimed himself Shah in 1925, ending the rule of the Qajars (1794–1925) and establishing the Pahlavi dynasty that ruled Iran until the 1979 Islamic revolution.

# The Twentieth Century

From the end of World War II until the Suez Crisis in 1956, Britain and France dominated the heartlands of Islam. By creating states with artificial boundaries, they planted the seeds of future border disputes and wars (including, for example, Iraq's invasion of Kuwait in 1990). The creation of Israel in 1948 and the first Arab-Israeli war had profound consequences for the future. For the victorious Jews it seemed that war and land grab rather than negotiations was the effective way to deal with the Arabs. For the Palestinians, of whom 700,000 became refugees, the war sent a similarly erroneous message: If they were to regain their homeland, they had to destroy the Jewish state, a policy abandoned only in 1988 when the PLO issued a call for a Palestinian state to coexist with Israel.



The Israeli-Arab conflict has involved various forms of organized violence. There have been atrocities and terror committed by both sides: open wars (1948, 1956, 1967, and 1973); Israeli military occupation of the West Bank and Gaza since 1967; Israeli invasion of Lebanon in 1982; unarmed Palestinian uprising; armed insurrection and guerrilla war against Israeli occupation; Palestinian assassinations and suicide bombers targeting Israeli soldiers, settlers, and civilians; Israeli-targeted assassinations of leaders of Palestinian military, paramilitary, and political organizations thought to be responsible for attacks on Israel; and punitive demolition of homes of Palestinian militants, terrorists, and their relatives.

The superpowers were soon involved in the region, for economic reasons such as oil and political reasons such as containing Communism or imperialism (depending on the superpower). Instead of becoming directly involved militarily, the superpowers tried to tip the balance of power by arming their clients. The ensuing arms race made wars very destructive. In the Iraq-Iran war, in which Iraq's use of chemical weapons outraged the world, some 1.5 million perished. Revolutions and military coups of various types also plagued the region.

The collapse of the Soviet Union left the United States as the sole superpower. The United States has established several military bases in Turkey, Saudi Arabia, Qatar, Bahrain, and Kuwait. Its role in the first Gulf War, its treatment of Iraq in the following ten years, and its strategic partnership with and support for Israel in the Israeli-Palestine conflict has fueled rage against the United States throughout the Muslim world. Anti-Americanism has been exploited by militant Islamist extremists whose terrorist attacks have targeted the United States and its allies, reminding the world that even the militarily most sophisticated and economically strongest societies are vulnerable. Continuing resistance to the United States and the U.S.-backed governments in Iraq and Afghanistan has shown the limits of Western armies in asymmetrical warfare.

Gabor Ágoston

#### **Further Reading**

Ágoston, G. (in press). Guns for the sultan: Military power and the weapons industry in the Ottoman empire. Cambridge, UK: Cambridge University Press.

Ayalon, D. (1978). Gunpowder and firearms in the Mamluk kingdom: A challenge to a medieval society (2nd ed.). London: Frank Cass.

Black, J. (1998). War and the world: Military power and the fate of continents. 1450–2000. New Haven, CT: Yale University Press.

Bosworth, C. E. (1963) *The Ghaznavids: Their empire in Afghanistan and eastern Iran*, 994–1040. Edinburgh, UK: Edinburgh University Press.

Chase, K. (2003). Firearms: A global history to 1700. Cambridge, UK: Cambridge University Press.

Esposito, J. L. (2002). *Unholy war: Terror in the name of Islam.* Oxford, UK: Oxford University Press.

Fahmy, K. (1997). All the pasha's men: Mehmed Ali, his army and the making of modern Egypt. Cambridge, UK: Cambridge University Press.

Floor, W. (2001). Safavid government institutions. Costa Mesa, CA: Mazda Publishers.

Gommans, J. (2002). Mughal warfare: Indian frontiers and high roads to empire, 1500–1700. London: Routledge.

Haldon, J. (2003). Warfare, state and society in the Byzantine world, 565–1204. London: Routledge.

Hourani, A. (1991). A history of the Arab peoples. Cambridge, MA: The Belknap Press of Harvard University Press.

Kennedy, H. (2001). The armies of the caliphs: Military and society in the early Islamic state. London: Routledge.

Khodarkovsky, M. (2002). Russia's steppe frontier: The making of a colonial empire, 1500–1800. Bloomington: Indiana University Press.

McNeill, W. H. (1984). The pursuit of power: Technology, armed force, and society since A.D. 1000. Chicago: The University of Chicago Press.

Milton-Edwards, B., & Hinchcliff, P. (2001). Conflicts in the Middle East since 1945. London: Routledge.

Murphey, R. (1999). *Ottoman Warfare*, 1500–1700. New Brunswick, NJ: Rutgers University Press.

Parry, V. J., & Yapp, M. E. (1975). War, technology and society in the Middle East. London: Oxford University Press.

Pipes, D. (1981). Slave soldiers and Islam: The genesis of a military system. New Haven, CT: Yale University Press.

Shlaim, A. (1995). War and peace in the Middle East. New York: Penguin.Smith, C. D. (2001). Palestine and the Arab-Israeli conflict (4th ed.).New York: St. Martin's Press.

# Warfare— Japan and Korea

During the long histories of Japan and Korea, there were many times that their respective experiences with warfare would intertwine, with military forces moving from the Korean peninsula to the Japanese islands

and vice versa on a number of occasions in the past two millennia. For the most part, however, warfare in Japan and Korea went their separate ways.

#### Premodern Korea

The great Chinese dynasties sought to control the Korean peninsula as one of many areas on the periphery of Chinese civilization. Thus, China's Qin and Han dynasties (221–206 BCE and 206 BCE–220 CE, respectively) both made attempts to conquer the peninsula. The Korean kingdom of Koguryo (37 BCE-668 CE) defended itself adroitly, but the Han did establish a commandery in present-day P'yongyang. However, as the Han declined in the early third century CE, two other kingdoms on the peninsula rose to increasing prominence—Paekche (18 BCE-663 CE) in the west and Shilla (57 BCE-935 CE) in the east, with Shilla (aided by Tang dynasty China) eventually incorporating the other two in the seventh century to form a single state. Kava, a small tribal confederation in southern Korea had been subsumed into Shilla in the sixth century. The relationship between the various Korean kingdoms and the clans on the islands of Japan is hotly argued. Japanese textbooks maintain that there was a Japanese military outpost in southern Korea and that Japanese forces were called upon to aid the various kingdoms in their conflicts with one another in the fourth and fifth centuries, but many scholars, both Korean and Japanese, have insisted that there is no evidence of a permanent Japanese outpost and dispute the nature of Japanese military activity. Most scholars agree on the major contributions Korean culture made to what came to be the dominant culture in Japan in the early centuries CE.

One aspect of Shilla's social structure that contributed to its attaining preeminence over its neighbors was the *hwarang*, an elite group of young warriors who lived by a moral code that emphasized loyalty, filial piety, and courage; it also opposed indiscriminant killing. The Shilla kingdom also established a strong naval defense of the peninsula's coastal regions.

#### The rise of Koryo

Shilla gradually lost control over its territories in the ninth century and the kingdoms of Later Koguryo and Later Paekche asserted independence. In 918 a general of the Later Koguryo kingdom announced the establishment of the Koryo kingdom (918–1392), and in 935 Koryo defeated the remnants of the Shilla state. Koryo also defeated Later Paekche, and in 936 the Korean peninsula was reunited. The Koryo rulers constructed a wall along their northern border to help keep out marauding nomadic Turks and Mongols, and they alternately allied with the Chinese Song dynasty (960–1279) and the Khitan Mongols to help preserve their independence.

Koryo began to break apart in the twelfth century; invaded by the Mongols in 1231, it was a vassal state of the Mongol empire from 1270. Like Shilla, Koryo was a strong naval power; its navy made use of cannon and gunpowder in the late fourteenth century and used naval guns to turn back a Japanese maritime invasion in 1380, destroying more than five hundred Japanese battleships.

#### The Choson (YI) Dynasty

Weakened by its dealings with the Mongols, the Koryo kingdom fell in 1392 to Yi Song-gye (1335–1408), a military leader who had risen to prominence battling the Mongols. Yi became the first king of the Choson dynasty (1392–1910).

Perhaps the most famous element in Choson's military history is the development and deployment of the turtle ships—armored warships—in the sixteenth century. They were developed by the military hero Yi Sun-shin (1545–1598), who used them to repel the invasions of the Japanese general Toyotomi Hideyoshi (1536/7–1598) not once but twice, in the 1590s, though aid from China was decisive in defeating those Japanese forces that made it to land.

#### Premodern Japan

During Japan's Nara and Heian periods (710–794 and 794–1185, respectively), the aristocratic ruling elite made use of subordinate military clans for protection and to extend Japan's frontiers east and north, pushing back the indigenous population, ancestors of today's Ainu (an originally Siberian people now found only in Hokkaido, Japan's northernmost major island). These military clans became more and more powerful, until in the late twelfth

History is the most aristocratic of all literary pursuits, because it obliges the historian to be rich as well as educated. • Henry Adams (1838–1918)

century one clan, the Taira, became the de facto rulers of Japan, only to be replaced by a rival clan, the Minamoto, whose leader, Minamoto Yoritomo (1147–1199), ruled Japan as supreme military commander, or shogun. The Kamakura period that followed (1185–1333), named for the seat of Minamoto power, witnessed the beginnings of a distinctive Japanese feudalism. Samurai, as members of the warrior class came to be known, ideally lived ascetic, disciplined lives guided by codes of loyalty and honor. They could carry two swords—a long sword for fighting and a short sword for ritual suicide to atone for failings and embarrassments. Japanese swords are famous for their hardness and sharpness.

#### THE MONGOL INVASION

After establishing the Yuan dynasty (1279–1368) in China, Mongol leaders looked across the narrow waters at Japan. The result was two great, Mongol-ordered, mostly Chinese- and Korean-supplied invasions of Japan whose defeat gave rise to the kamikaze legend. In 1274 Khubilai Khan (1215–1294) sent forty thousand men on nine hundred ships to Hakata Bay, on the southern island of Kyushu. The Mongol-Korean army overwhelmed the Japanese defenders with the famed Mongol cavalry, explosive missiles, and powerful composite bows. As the Japanese retreated to the fortress of Dazaifu, and the Mongols to their ships in the harbor, a great typhoon blew through and destroyed more than two hundred Mongol ships, causing the invaders to retreat to Korea and China. In 1281 Khubilai Khan sent a larger army, 140,000 men, back to Hakata Bay. The Japanese had prepared by constructing a stone defensive wall, but the Mongol invaders enjoyed early success. However, several weeks after landing, yet another typhoon, which Japanese religious leaders called a divine wind, or kamikaze, blew through and once again destroyed much of the Mongol navy and ending this threat to Japan.

#### Ashikaga Rule

The economic and military strain of defending Japan from the Mongol attack contributed to weakening the Kamakura government, which in 1333 was overthrown by an imperial claimant determined to return de facto

power to the imperial throne. The claimant's initial backer, the general Ashikaga Takauji (1305–1358), eventually betrayed the cause and established himself as shogun, but Ashikaga rule (1333–1573) was much more decentralized than Kamakura rule had been, and Japan descended into civil war in 1467 that lasted for more than a hundred years. Toward the end of this century of war, Portuguese ships arrived bringing missionaries and firearms, which, by making it possible for a peasant foot soldier to kill a mounted warrior easily, portended the eventual end of the samurai class.

#### REUNIFICATION OF JAPAN

In the 1570s, three great unifiers ended the century of warfare. Oda Nobunaga (1534-1582) officially brought the Ashikaga shogunate to an end with his capture of the capital city of Kyoto in 1573; he was proceeding to bring Japan under his sway when he was killed by a vassal. Toyotomi Hideyoshi, Nobunaga's best general, completed the job of reunifying Japan. Although himself of humble origins, Hideyoshi reasserted the division between warriors and nonwarriors, confiscating swords and firearms from all nonwarriors in 1588. Dreaming of vaster empires, Hideyoshi attacked Korea with an eye toward China; upon his death the Japanese evacuated Korea. Hideyoshi, like Nobunaga before him, left only an infant heir, and like Nobunaga, Hideyoshi's eventual successor was an able general, Tokugawa Ieyasu (1542–1616), who established a new shogunal government with its capital at the city of Edo (present-day Tokyo).

The most salient feature of Tokugawa foreign policy was its closing off of Japan from the rest of the world. The Dutch—the only Europeans permitted to trade with Japan after 1639—were allowed only on the tiny island of Deshima in Nagasaki harbor; the Chinese were permitted entrance to Nagasaki itself. All other contact between Japan and the rest of the world was forbidden. Trade with Korea was permitted on the islands of Tsushima between the two countries. With the suppression of a revolt of Christian peasants and masterless samurai in Shimabara (in western Kyushu) in 1637–1638, Japan entered a period of peace that lasted more than two hundred years.

#### Japanese and Korean Warfare in the 1800s

The coming of the modern West to East Asia in the midnineteenth century helped precipitate a major change in Japan. The Tokugawa shogunate had grown old and had lost energy, and the arrival of eight ships under U.S. Commodore Matthew Perry in the mid-1850s, demanding trade, helped bring it down. Samurai from provinces that had been on the periphery of power during the Tokugawa shogunate orchestrated the overthrow of the shogunate and called for the reestablishment of the emperor to power. After this Meiji Restoration (1868), Japan set about securing itself from European domination by modernizing itself furiously—not least its military.

# The first Sino-Japanese War and the Russo-Japanese War

In 1894, Japan intervened in internal Korean politics to force a Chinese reaction, which brought about the brief Sino-Japanese War (1894–1895). The small but modern and well-led Japanese army and navy quickly defeated the larger, older, outdated, and poorly led Chinese forces, which resulted in the Treaty of Shimonoseki, through which Japan gained Taiwan and the Liaodong peninsula of Manchuria. Its acquisition of the latter brought about the Triple Intervention of Russia, Germany, and France to preserve Russia's interest in China's northeast. Tension between Russia and Japan continued for a decade, culminating in the Russo-Japanese war (1904–1905). A Japanese fleet attacked the Russian fleet at anchor at Port Arthur in southern Manchuria; fighting continued for more than a year. Hard fighting and huge losses sapped the strength of both sides, and they agreed reluctantly to a U.S.brokered peace (the Treaty of Portsmouth). Japan had demonstrated its might not only against other Asian nations, but against a Western power. The Treaty of Portsmouth recognized Japan's interests in Korea, and, emulating Western imperialism, in 1910 Japan annexed Korea.

# The Second Sino-Japanese War and the Pacific War

In 1931–1932, the Japanese seized control of Manchuria from China; in 1937 the second, and much larger, Sino-

Japanese conflict began. Japanese atrocities during that conflict, including a massacre of 100,000–300,000 in Nanjing, have made for cool relations between the two nations ever since.

Japan's surprise attack on the U.S. Navy at Pearl Harbor in 1941 was designed to keep the United States from interfering in Japan's plans to build a self-sufficient empire in Southeast Asia. Following the attack, Japan took control of the Philippines, Indochina, Thailand, Burma, and the Dutch West Indies, as well as numerous islands in the Pacific. When the tide started turning against the Japanese, privations at home grew great; the government encouraged the people by emphasizing the strength of the "Japanese soul"; recalling the thirteenth-century victory over the Mongols, young recruits were transformed into kamikaze suicide pilots to attack enemy ships. But in 1945, after experiencing two atomic bombs, Japan surrendered. The U.S.-imposed constitution required Japan to foreswear all future military aggression. Although the constitution forbade a military, Japan maintained a very credible Self Defense Force with an army, navy, and air force.

#### THE KOREAN WAR

In August 1945, to fulfill a promise made at the Yalta Conference and reiterated at the postwar Potsdam Conference, the Soviet Union transferred a great many divisions to the Far East and sliced through the weakened Japanese army in Manchuria and quickly moved into northern Korea. Meanwhile, beginning on 15 September, the U.S. Army's Fifty-Fourth Corps liberated Korea south of the thirty-eighth parallel. Within several years there were highly antagonistic regimes on both sides of the tense border and, on 25 June 1950, war erupted when 135,000 troops from the north, backed by Soviet T-34 tanks, invaded the more lightly armed south.

The Korean War had five phases. The North Koreans pushed south, and U.S. president Harry Truman committed U.S. armed forces to slow the North Korean rush and to maintain a perimeter around Pusan, in the southeast, as a base for reinforcements and supplies. Beginning on 15 September, the United States, the Republic of Korea (South Korea), and some United Nations forces broke out of the Pusan Perimeter to link up with a



daring amphibious invasion at Inchon. This counteroffensive carried the UN forces up to the Yalu River separating Korea from China and the Soviet Union. When the United States ignored Chinese demands to halt, the new Communist rulers in Beijing sent in troops, and in this third phase veteran Chinese Communist divisions slipped behind and around isolated U.S. and South Korean forces, driving them back across and slightly below the thirty-eighth parallel. Truman relieved General Douglas MacArthur of his command, and in the fourth phase the UN forces, commanded by General Matthew Ridgway, drove the Communists back across the parallel by early spring 1951. The fifth phase consisted of a twenty-sevenmonth period to negotiate the truce that currently reigns on the peninsula, where tensions continue to exist, fanned in the twenty-first century by fears of North Korean nuclear weapons.

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See also Japanese Empire; World War II

# **Further Reading**

Boyle, J. H. (1972). China and Japan at war, 1937-1945: The politics of collaboration. Stanford, CA: Stanford University Press.

Brent, P. (1976). The Mongol empire: Genghis Khan: His triumph and his legacy. London: Weidenfeld & Nicholson.

Callahan, R. (1978). Burma, 1942–1945. London: Davis Povnter.

Choucri, N., North, R. C., & Yamakage, S. (1992). The challenge of Japan before World War II and after: A study of national growth and expansion. New York: Routledge.

Duus, P., Myers, R. H., & Peattie, M. (Eds.). (1989). The Japanese informal empire in China, 1895-1937. Princeton, NJ: Princeton Univer-

Farris, W. W. (1992). Heavenly warriors: The evolution of Japan's military, 500-1300. Cambridge, MA: Harvard University Press.

Friday, K. F. (1992). Hired swords: The rise of private warrior power in early Japan. Stanford, CA: Stanford University Press.

Friday, K. F. (2004). Samurai warfare and the state in early medieval Japan. New York: Routledge.

Giffard, S. (1994). Japan among the powers, 1890-1990. New Haven, CT: Yale University Press.

Hanneman, M. L. (2001). Japan faces the world, 1925-1952. New York: Longman.

Henthorn, W. E. (1963). Korea: The Mongol invasions. Leiden, Netherlands: E. J. Brill.

Henthorn, W. E. (1971). A history of Korea. New York: Free Press.

Hsiung, J. C., & Levine, S. I. (Eds.). (1992). China's bitter victory: The war with Japan, 1937-1945. Armonk, NY: M. E. Sharpe.

Matthews, G. F. (1966). The re-conquest of Burma, 1943-1945. Aldershot, UK: Gale & Polden.

Paine, S. C. M. (2003). The Sino-Japanese war of 1894-1895: Perceptions, power, and primacy. New York: Cambridge University Press.

Sandler, S. (1999). The Korean war: No victors, no vanquished. Lexington: University of Kentucky Press.

Schmid, A. (2002). Korea between empires, 1895-1919. New York: Columbia University Press.

Spector, R. H. (1985). Eagle against the sun: The American war with Japan. New York: Free Press.

Tennant, C. R. (1996). A history of Korea. New York: Kegan Paul International.

Turnbull, S. R. (1977). The samurai: A military history. New York: Macmillan.

Turnbull, S. R. (1982). The book of the samurai: The warrior class of Japan. London: Arms and Armour Press.

Turnbull, S. R. (2002). Samurai invasion: Japan's Korean war, 1592-1598. London: Cassell.

Wilson, D. (1982). When tigers fight: The story of the Sino-Japanese war, 1937-1945. New York: The Viking Press.

Yamada, N. (1979). Ghenko, the Mongol invasion of Japan. Washington, DC: University Publications of America.

# Warfare— Post-Columbian Latin America

The collision of Eastern and Western Hemispheres that began in 1492 with the first voyage of Christopher Columbus unleashed a wide range of encounters on many planes, and war played a central role. The two largest wars of the age of sixteenth-century Iberian conquest in the Americas were won by Spain in Mexico (1519–1521) and in Peru (1532–1536). Historians generally attribute the final Spanish victory over the American empires to three major factors: (1) divisions among American peoples, some of whom opposed Mexican and Inca rule; (2) the effects of sudden, acute exposure to Eastern Hemisphere diseases, such as smallpox, to which Americans had no immunities; (3) the superior weapons and battlefield tactics of the Spaniards. The weapons advantages included steel-edged swords and pikes, crossbows, and cannons and infantry firearms. Armed with obsidiantipped weapons, Mesoamerican (peoples of southern North America) warriors traditionally deployed in loose formations to capture victims for religious sacrifice,

although Andeans, armed with clubs, deployed like Spaniards in massed formations that provided concentration of force and firepower.

Portuguese colonization of Brazil began in 1500. The combination of disease, weapons technology, and tactics ensured the defeat of yet another group of indigenous Americans. Concerned about French forays into Brazil, Portuguese King João III redoubled colonization efforts in the 1520s. A final French incursion into present-day Rio de Janeiro was ejected by 1567. Latin America was divided between the overseas empires of Spain and Portugal.

#### Latin America in the Wars of the Colonial Powers

Spain and Portugal were concerned about preserving their American colonies and especially the bullion wealth that they produced, just as their rivals were interested in gaining access to them. Although it was not a major theater of operations during the Thirty Years War (1618-1648), England and Holland at times carried the war to the Western Hemisphere.

Armed ships of the Dutch East India Company forayed into the Pacific in 1614. That foray spurred improvements to fortifications of key Spanish harbors. Dutch and English activities in the Caribbean resulted in like efforts there. Dutch incursions into Brazil were eventually ejected, and the Dutch capture in 1641 of Luanda, Angola, was soon reversed, removing the threat to the transatlantic slave trade that had become the principal source of Brazilian plantation labor. The defensive posture assumed by the Iberian powers was for the most part successful, although a Dutch squadron captured a Spanish treasure fleet off Cuba, and weakly defended Spanish Jamaica was lost to England.

The European powers fought a series of wars around the world throughout the eighteenth century, and the wealth of the Americas remained a central concern. Portugal had gravitated into an alliance with Britain at the turn of the eighteenth century. The War of the Spanish Succession (1701–1713) placed a French Bourbon prince on the Spanish throne. Expanding British power heightened the threat to Spanish America. Technological and tactical developments in Europe were often mirrored in the Americas, but many American campaigns included guerrilla-style tactics as well as the fixed ranks characteristic of battle on the European peninsula. Small permanent American garrisons were often supplemented by militia units that also quelled internal rebellions.

British forces captured the Caribbean port city of Portobelo, in present-day Panama, immediately following the outbreak of the War of Jenkins's Ear between Britain and Spain in 1739. This conflict became enveloped in the War of the Austrian Succession (1740–1748). The heavy fortifications of Cartegena de Indias, in present-day Colombia, withstood a British siege in 1741. Another British squadron cruised the Pacific coast of Spanish America and then crossed to the Philippines. There it captured the annual Manila galleon, outbound from Acapulco and loaded with silver bullion, interdicting for the only time the world's first global trading network.

During the Seven Years War (1754-1763) Spain pushed Portugal out of Uruguay and went on to capture Rio Grande do Sul, the southernmost state in present-day Brazil. Britain captured Havana, Cuba, by taking the harbor fortifications from the landward sides. Also falling to British power was Manila, which prior to 1821 was administratively subordinate to Mexico City. Spain ceded Florida to Britain in exchange for Havana's return. Spain also received all French territory west of the Mississippi River in North America, but at the price of the ejection of its French ally from the continent. Portugal later reestablished its town of Colônia in Uruguay but lost it again during the war that led to the independence of the United States (1776–1783). Spain provided monetary support to the rebels in North America and launched a successful campaign against the British that recovered Florida.

## Rebellions and Independence Struggles

The Bourbon kings of Spain implemented political reforms that included heightened tax burdens on American subjects. Animosity increased between Americanborn white Spaniards and those born on the Iberian peninsula. Latin American colonies experienced many uprisings during the eighteenth century and later.

We can see many rebellions as responses to increased taxation and abuses by officials. Also important was cultural defense by rebellious indigenous villagers. Uprisings by African slaves occurred in areas where slave plantations were common. The larger

rebellions often had multiple causes. Rebellions among Andean people often contained currents of Inca millenarianism, manifesting a desire to create an indigenous empire led by a descendant of the pre-1571 hereditary rulers known as Incas..

The most extensive of these rebellions took place in the Andes from 1781 to 1784. Some 15,000 regular and militia troops took the field against the Tupac Amaru II rebels, and an estimated 100,000 persons were killed during the rebellion. In the end royalist troops restored Spanish colonial authority. Such restoration was always the case before the independence conflicts. Militia troops may not have been better trained than their rebel opponents. Rebels at times gained an initial advantage through surprise attacks with overwhelming numbers, but they always suffered from a shortage of effective battlefield weapons. Although never the only factor, superior armaments enabled Spanish troops to defeat rebels in the end.

The prestige of the Iberian powers and the monarchs themselves provided a sort of final authority that held colonial rule together. Events in Europe altered the political situation in the Latin American colonies. The British Navy foiled the French emperor Napoleon by evacuating the Portuguese royal family to Brazil. France invaded Spain in 1808 and arrested the king and his son. Joseph Bonaparte, son of Napoleon, then sat on the Spanish throne. Crises followed as local factions struggled to fill the legitimacy void.

Three large independence conflicts emerged and lasted several years. One was led by Simón Bolívar (1783-1830) and centered in present-day Colombia and Vene-



In a scene played out many times in modern Latin America, soldiers in El Salvador arrest students accused of revolting against the government.

zuela. José de San Martín (1778-1850) led another in Argentina and joined forces with Bolívar in Peru. The Mexican independence struggle erupted in 1810. Each conflict featured a large royalist faction that offered fierce resistance. Although neither side had enough troops to establish massed formations of infantry, Napoleonicera developments in battlefield tac-

tics influenced the conduct of these conflicts. Both sides had access to supplies of firearms and munitions, negating an important advantage enjoyed by royalists against earlier rebels. The conflicts were complex and protracted, but by 1824 all of Latin America except Cuba and Puerto Rico had achieved political independence.

Independence replaced two large colonial empires with a number of separate states. Each state faced many problems, prominent among them disputes between liberals and conservatives that usually manifested themselves as conflicts over centralization of political power. Conflicts erupted within states over breakaway provinces and between states over borders and resources, some of which continue to the present.

The Portuguese king departed Rio de Janeiro in 1821 and left behind his son Pedro as prince regent. Pedro declared independence in 1822 and implemented a centralist constitution. During the next twenty-five years five major armed rebellions occurred in different parts of Brazil, each one seeking to decentralize power. The Brazilian army defeated each in its turn. In 1835, the Brazilian government also suppressed a major slave uprising in Bahia.

Argentina failed to hold together the boundaries of the viceroyalty (the territory or jurisdiction of a ruler) of the Río de la Plata. The Bolívar faction in Peru created Bolivia out of Upper Peru. Lying beyond effective reach of Buenos Aires, Argentina, Paraguay achieved independence. Uruguay sought more local autonomy than Buenos Aires leaders wished to give, and the Spanish-Portuguese rivalry over that region reemerged as one between Argentina and Brazil. A lengthy conflict characterized by cavalry action followed. In 1828 Britain and France intervened to force the creation of a buffer state, not incidentally guaranteeing freedom of navigation on the Paraná and Uruguay Rivers.

#### Wars against Indigenous Societies

Indigenous societies formed important parts of many Latin American states. Settled indigenous peoples had been largely incorporated into new nation-states in varying degrees of social subordination. Indigenous nomads resisted the onslaught of European-derived societies and attempted to maintain their ways of life. Argentina undertook its Campaign of the Desert (1833-1836) to eject the Pampas nations from lands intended for cattle ranching. Argentina achieved battlefield successes, but indigenous peoples continued to raid along the frontier of settlement. The Second Campaign of the Desert (1879) became largely aimed at Araucanian peoples who had migrated into Argentina because of Chilean military actions. Both Argentine campaigns ranged across large plains and were fought largely on horseback. During the second campaign especially the Argentine army had superior weaponry and logistics and employed tactics similar to those used by the U.S. Army against Plains nations. Argentina's successful campaign resulted in the destruction of the indigenous nomads.

## Wars between Nation-States

Beset with internal conflicts between liberals and conservatives, Mexico also had to confront the westward-expanding United States. Mexico lost Texas to independence in 1836 and then faced U.S. pressure on California in the following decade. The U.S. declared war in 1846. After a land campaign in the North, the United States staged an amphibious landing at Veracruz and went on to capture Mexico City in September 1847. Mexico lost half of its territory. The U.S. victory can largely be attributed to the professionalism of its officer corps, effective use of mobile artillery, and state-of-the-art firearms.

Internal conflicts between Mexican liberals and conservatives continued, leading to the War of the Reform (1857–1859). Liberal victory was followed by a conservative alliance with France, which in 1863 invaded Mexico and enthroned a puppet emperor. Liberals expelled the French in 1867.

In South America landlocked Paraguay disputed borders with all of its neighbors and sought expanded navigation rights to the Atlantic along the Paraná River. President Francisco Solano López (1827–1870) pressed his country's claims and embroiled it in a war against Argentina, Brazil, and Uruguay (1864–1870). Poorly equipped Paraguayan troops fought courageously but lost to the overwhelming force of its larger opponents. The male population of Paraguay was depleted by at least 50 percent.

Chile during the nineteenth century expanded to the north at the expense of Bolivia and Peru. At issue in the War of the Pacific (1879–1883) were mineral rights in the nitrate-rich Atacama Desert. The Chilean army was outnumbered by its Bolivian and Peruvian opponents, but the Chileans were much better equipped and led by better-trained officers. Naval power was important in this war, although maintenance problems plagued the fleets of both sides. Victory gained for Chile the Atacama region and Peru's three southern provinces, of which northernmost Tacna was returned in 1929.

Loss of its Pacific coast turned Bolivia's attention toward the Paraná River route to the Atlantic. The unsettled Chaco region along the Paraguayan-Bolivian frontier contained oil and mineral reserves, and in 1932 Bolivia provoked a war with Paraguay over the Chaco region. Although Bolivia was expected to win because of its larger army and its aircraft, Bolivia's efforts to secure the region failed because soldiers from the highlands fell victim to disease when they entered the humid Paraguayan jungle and because Paraguayan generals deployed their forces effectively and kept them supplied by rail. Paraguay gained the lion's share of the spoils in the subsequent peace conference.

In the Caribbean rebels started the third war for Cuban independence from Spain in 1895. Fierce guerrilla

Think how many blameless lives are brightened by the blazing indiscretions of other people. • Pope Paul VI (1897 - 1978)

fighting continued for three years. Following an explosion that sank the U.S. battleship *Maine* in Havana, the United States declared war on Spain. Suffering defeats at sea and on land in Cuba, Puerto Rico, and the Philippines, Spain lost its last American and Asian colonies. The United States created a system of protectorates in the Caribbean and Central America that guarded the approaches to the Panama Canal (opened 1914).

Several Latin American states entered World War I. most notably Brazil, which was provoked by German attacks on its shipping. More countries declared war on the Axis powers (Germany, Italy, Japan) during World War II, including Mexico and Brazil, which allowed U.S. aircraft to use their airfields to combat the German submarine threat in the Atlantic. Brazil's army fought in Europe, and its navy escorted convoys across to Allied (United States, United Kingdom, France, Soviet Union, China) bases in Africa. A Mexican aircraft squadron fought in the Philippines during 1945.

In 1982 the military government of Argentina invaded the British Falkland Islands colony in the South Atlantic. Attempting to bolster public support for the military government, the junta (a group of persons controlling a government) sought to enforce Argentina's long-standing claim to the islands, which Argentina calls the "Malvinas." Despite the long sea lines of communication, a British expedition recaptured the islands. Argentine naval and air units achieved some success, but in general weaker Argentine forces faced British opponents who were trained to exacting North Atlantic Treaty Organization (NATO) standards. Britain's victory led to the fall of Argentina's military government.

#### Wars of Revolution

Between 1910 and 1920 Mexico experienced revolutionary upheaval and civil war. The Mexican Revolution began with the overthrow of Porfirio Díaz (1830–1915) and continued through a lengthy and complicated set of political twists and turns. Two short-lived successor regimes failed to consolidate power, and by 1914 a fullscale civil war raged across Mexico.

Three major factions emerged. South of Mexico City peasant followers of Emiliano Zapata (1879-1919) sought restoration of rural lands to their villages. Zapata's followers tended to fight on foot. The other two factions emerged in the North. Each drew heavily upon the cowboy population for its membership and made extensive use of horse cavalry. Throughout the revolution the railroad network constructed by the Díaz regime played a determining role in the ebb and flow of combat. The two northern factions also employed small aviation units. One northern faction was led by Francisco ("Pancho") Villa (1873–1923) and the other by Álvaro Obregón (1880–1928), whose political loyalty lay with Venustiano Carranza (1859-1920). Villista and Carrancista forces both had access to U.S.-made weapons at first, but President Woodrow Wilson later cut off Villa's sources.

In April 1915 Villista and Carrancista forces clashed in two major battles around Celaya northwest of Mexico City. Villista cavalry mounted several charges against Carrancista machine-guns emplaced in barbed-wire defenses, resulting in decimation of Villa's forces. Retreating northward, Villa again faced Obregón at Aguascalientes on 10 July 1915, and suffered a crushing defeat that relegated the Villa faction to relative insignificance. A Carrancista column ejected Zapata's forces from Mexico City in the following month, and the Zapatistas retreated south into their home area of Morelos. Zapata himself fell victim to a trick and was assassinated in an ambush in 1919. The Zapatista forces lost cohesion and dissolved, ending the military aspects of the revolution. The Mexican Revolution was the largest-scale conflict in twentieth-century Latin America, but the revolution in Cuba affected many parts of the entire region.

In 1956 Cuban exiles led by Fidel Castro (b. 1926) landed in eastern Cuba and began a guerrilla war from mountain bases against the dictatorship of Fulgencio Batista (1901–1973). The Cuban military was outfitted with U.S. equipment from World War II and also jet aircraft. The difficult terrain afforded the rebels adequate security, and they quickly gained the support of peasants in the region. Thousands of troops moved against hundreds of rebels, but the guerrilla strategy succeeded.

Castro's forces swelled to seven thousand as the public reacted unfavorably to repressive tactics employed by the Batista regime. (When Castro victoriously entered Havana, he had not clearly allied himself with the Communist Soviet Union.) A key factor in the rebels' victory was their high morale and good discipline. Operation from a remote base (foco) was a common strategy, and the Cuban Revolution served as a model for other revolutionary forces. However, only in Nicaragua did such a revolutionary force actually gain political power. Castro's Argentine-born comrade, Ernesto "Che" Guevara (1928–1967), died in Bolivia leading a failed foco-based revolutionary guerrilla force.

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# **Further Reading**

- Andrien, K. J. (2001). Andean worlds: Indigenous history, culture, and consciousness under Spanish rule, 1525–1825. Albuquerque: University of New Mexico Press.
- Anna, T. E. (1978). The fall of the royal government in Mexico City. Lincoln: University of Nebraska Press.
- Berger, T. R. (1992). A long and terrible shadow: White values, native rights in the Americas. Seattle: University of Washington Press.
- Bethell, L. (Ed.). (1987). *The independence of Latin America*. Cambridge, UK: Cambridge University Press.
- D'Altroy, T. N. (2003). The Incas. London: Blackwell.
- Eisenhower, J. S. D. (1989). So far from God: The U.S. war with Mexico, 1846–1848. Norman: University of Oklahoma Press.
- Guevara, C. (1985). Guerrilla warfare. Lincoln: University of Nebraska Press.
- Kamen, H. (2003). *Empire: How Spain became a world power, 1492–1763*. New York: HarperCollins.
- Katz, F. (Ed.). (1988). Riot, rebellion, and revolution: Rural social conflict in Mexico. Princeton, NJ: Princeton University Press.
- Klein, H. S. (1992). Bolivia: The evolution of a multi-ethnic society (2nd ed.). New York: Oxford University Press.
- Knight, A. (1986). The Mexican Revolution. Cambridge, UK: Cambridge University Press.
- Langley, L. D. (2002). The banana wars: United States intervention in the Caribbean, 1898–1934. Wilmington, DE: Scholarly Resources.
- Loveman, B., & Davies, T. M., Jr. (Eds.). (1989). The politics of antipolitics: The military in Latin America (2nd ed.). Lincoln: University of Nebraska Press.
- Lynch, J. (1986). The Spanish American revolutions 1808–1826. New York: W. W. Norton.
- Lynch, J. (1989). Bourbon Spain, 1700-1808. London: Blackwell.
- Lynch, J. (1991). Spain, 1516–1598: From nation state to world empire. London: Blackwell.
- Lynch, J. (1992). The Hispanic world in crisis and change, 1598–1700. London: Blackwell.

- Nunn. F. M. (1983). Yesterday's soldiers: European military professionalism in South America, 1890–1940. Lincoln: University of Nebraska Press.
- Nunn, F. M. (1992). The time of the generals: Latin American professional militarism in world perspective. Lincoln: University of Nebraska Press.
- Reis, J. J. (1993). Slave rebellion in Brazil: The Muslim uprising of 1835 in Bahia. Baltimore: Johns Hopkins University Press.
- Rock, D. (1987). Argentina, 1516–1987: From Spanish colonization to Alfonsin. Berkeley and Los Angeles: University of California Press.
- Rodríguez O., J. E. (1998). *The independence of Spanish America*. Cambridge, UK: Cambridge University Press.
- Scheina, R. L. (1987). Latin America: A naval history, 1810–1987. Annapolis, MD: United States Naval Institute Press.
- Scheina, R. L. (2003). *Latin America's wars*. Washington, DC: Brassey's. Smith, M. E. (2003). *The Aztecs* (2nd ed.). London: Blackwell.
- Stern, S. J. (Ed.). (1987). Resistance, rebellion, and consciousness in the Andean peasant world, 18th to 20th centuries. Madison: University of Wisconsin Press.
- Vásquez, J. Z., & Meyer, L. (1985). The United States and Mexico. Chicago: University of Chicago Press.
- Walker, C. F. (1999). Smoldering ashes: Cuzco and the creation of republican Peru, 1780–1840. Durham, NC: Duke University Press.

# Warfare— Post-Columbian North America

Post-Columbian warfare in North American determined the settlement pattern of European colonization and rule as well the pattern of European-Native American relations for the next 400 years. It also established what many historians have termed the *American way of war*.

Post-Columbian warfare in North America (1492–1774 in what is today Canada, the United States, and the islands of the Caribbean) can be divided into three major types. The first type are the conflicts that were primarily between various Native American groups, the second are the campaigns of conquest conducted by Europeans against a variety of Native American tribal groupings, sometimes with other Native Americans allied to the Europeans. The third and most significant campaigns are those of Europeans against other Europeans with some

1520-1600	Spanish exploration and settlement of Florida and the American Southwest.
1609	French explorer and commander Samuel Champlain aids Algonquin-speaking Natives in brief engagement against the Iroquois.
1614	Dutch arrive in the upper Hudson River valley and begin supporting the Iroquois.
1622	First major Native American conflict in Virginia.
1637	Pequot War in New England.
1652-1674	Anglo-Dutch Wars, New York becomes English in 1664.
1675	King Philip's War in New England and Bacon's Rebellion in Virginia.
1680	Pueblo uprising against Spanish rule in New Mexico.
1689-1697	King William's War between French and English— Port Royal (Nova Scotia), Acadia captured by New England troops, returned by England at the peace of Ryswick.
1701-1713	Queen Anne's War between British and French allied with the Spanish—Port Royal captured again, British occupy Nova Scotia but French population remains.
1739-1748	War of Jenkins' Ear or King George's War between British and French allied with Spanish, Louisburg, Cape Breton Island captured by New England troops and Royal Navy, returned to France at the Peace of Aix la Chapelle.
1754-1763	French and Indian War (part of the European Seven Years War: 1756-1763) between the British and the French, results in the expulsion of France from North America.
1764-1766	Pontiac's Rebellion, British against former French-aligned Native tribes of the Old Northwest, Ohio to Illinois and Michigan.
1775	American Revolution begins.

supporting Native American allies on one or both sides. This article will focus on the second and third types and touch only briefly on the first as much of that type of warfare is poorly documented at best.

#### Characteristics of Native Warfare

It is a commonly held misconception that the Native American style of warfare was more ceremonial or more of a dominance ritual than warfare as fought by the Europeans. Just as the Europeans waged war for territory and power, Native Americans primarily waged campaigns to expand or defend hunting-and-gathering areas or regions of cultivation and to secure captives either to replace losses or to serve as slaves.

These native wars were characterized in North America by techniques suitable to a hunting-and-gathering culture, relying more on ambush and surprise attacks than on set-piece battles. Within those constraints, however, combat was ruthless and brutal with little concern for "noncombatant" casualties. Especially in surprise attacks on an enemy's villages, women and children were not spared unless to be taken as captives. While war was seldom waged to intentionally annihilate an enemy tribe, often times the casualties would be significant enough to cause one side or the other to have to assimilate with neighboring groups, thus effectively ceasing to exist as a separate tribe.

One major exception to these general conditions is the creation of the Iroquois Confederation in the later years of the 1500s and the early 1600s, in what would become upstate New York. The Iroquois, while maintaining many of the characteristics of native warfare, were also in the midst of what can be called an "imperial" expansion of their own, conquering territory and subjugating neighboring tribal groups.



#### Characteristics of European Warfare

The Europeans in a sense had a much more stylized form of warfare with set-piece battles fought almost by arrangement and extended sieges of cities and fortresses. Like the Native Americans, Europeans fought primarily to expand or defend border provinces and to acquire coercive power over their neighbors. In the sixteenth and seventeenth centuries, this coercive power was often related to the religious beliefs of the states or groups involved as the struggle between the emerging Protestant sects and the formerly hegemonic power of the Catholic Church intensified. The religious wars of the sixteenth and seventeenth centuries were similar in many respects to the wars of ideology of the twentieth century with a significantly increased likelihood of noncombatant casualties over what had been the rule in the fifteenth century and what would be the case in the eighteenth and nineteenth centuries.

Battle was a difficult event to orchestrate with the armies taking hours to draw up in their combat formations, thus battle was usually engaged by mutual consent of the opposing commanders. Battle was waged by generally linear formations of infantry equipped with firearms and pike, with massed cavalry and relatively static artillery in support. Due to the disciplined and well-armed forces, casualties on one or both sides could equal or exceed 50 percent of the engaged armies. Due to the nature of seventeenth- and eighteenth-century maneuver and battle, the more prominent form of combat was the siege of a fortified city or independent fortress. These sieges had become very formalized with an almost mathematical precision to their course and outcome.

## Origins of the "American Way of War"

In North America, these two conflicting styles would combine, resulting in a synthesized form of warfare that was characterized by both the surprise and ambush of Native American warfare and the heavy firepower of European warfare. In addition, as the settlers saw their very survival at stake on the frontier, these conflicts took on the character of a total war of annihilation as opposed to the more limited goals of either Native American warfare or European state warfare. This intensity of conflict often surprised and shocked both Native American enemies and European observers. It is from these origins that the American tradition of total war and unconditional surrender arose.

#### THE IMPACT OF DISEASE

In addition to the increased intensity of warfare in North America, disease played a dramatic role in many of the conflicts as the Eurasian disease pool was introduced into North America among people who had no developed immunities. The impact of smallpox, measles, and other endemic diseases of Europe were devastating on the Native American populations, often resulting in near total collapse of the native tribes and the decimation of their populations. Likewise, however, certain diseases endemic in the Americas or tropical diseases, such as yellow fever and malaria, could lay low entire settlements or armies of Europeans.

#### The Impact of Technology

The technology of the Europeans had a profound impact on the Native Americans, both on the battlefield and within their varied cultures. The combination of horse, rider, armor, firearms, and steel weapons was formidable, especially in the early years of Spanish settlements and conquest. The only counter the Native Americans had was either to overwhelm their European opponents with numbers or to strike quickly from ambush and escape before the Europeans could effectively respond. The other problem that European technology created was a dependence on trade with the Europeans on the part of the hitherto self-sufficient Native American warriors. The guns that the Europeans introduced required powder and shot as well as either replacement or repair in the event of failure; the Native Americans were not sufficiently equipped culturally or technologically to produce their own or even to repair broken weapons in most cases.

#### **Continuing Intertribal** Warfare in North America

Although the European arrival, settlement, and advance caused the most intensive conflict in the post-Columbian New World, it would be a mistake to assume that conflict between Native Americans tribes died out. Instead, in some ways the presence and effect of the Europeans intensified this intertribal warfare.

One major source of conflict among the Native Americans was the rise of the Iroquois Confederacy, the dominant native power and a nascent empire on the rise in the northeastern part of what would become the United States. The case of the Iroquois is unusual in that initially five tribes, later six, banded together in pursuit of common goals in a power-sharing arrangement. The member tribes of the Iroquois Confederation agreed not to wage war on one another and combined their power to subdue their neighbors and to dominate trade in the region. The power of the Iroquois Confederation was felt north into New France and south as far as the Cherokee lands in the Carolinas, Tennessee, and Georgia. Though the Iroquois rise predates European settlement in North America, the confederation continued to expand its area of influence, often playing one colonial power off against another to maintain its position.

Tribal warfare also continued along the edges of colonial areas as the various tribes fought over trading rights with the newcomers. European trade goods had a tremendous draw for the Native Americans, everything from firearms and steel axe heads to cloth and iron cooking pots, to say nothing of European or American distilled liquor. These trade goods fundamentally altered the traditional relationships between tribes. In order to gain control of the highly desired trade goods, the tribes needed access to both the Europeans and to the furs and other native products the Europeans desired in return. Thus, wars broke out between tribes for control of this trade in addition to the ancient fights over hunting and agricultural territory and for slaves and honor.

Among the Europeans, the French were perhaps the most influential of the newcomers with their fur-tradedriven economy. The French courted the tribes with trade goods and alliances. As a result French influence spread far into the heart of the American continent with both the voyager de bois and French Jesuit missionaries active as far west as the trans-Mississippi region. They participated with their allies in intertribal warfare, often having a decisive impact despite their small numbers because of the technological advantages they possessed and brought to their allies.

The European arrival also set in motion intertribal warfare far from their actual zones of conflict as the effects of European arrival set in motion two powerful factors. As Eurasian diseases made their way across the continent, epidemics devastated some tribes, upsetting local balances of power, generating wars as the lesser-affected tribes expanded their territories into territories of the more severely affected tribes. The European arrival also set tribes in motion as they were displaced from east to west; this displacement also caused wars between tribes as the refugees pushed west. One result of these displacements was the arrival of such tribal groupings as the Lakota on the Great Plains in the 1700s, having been pushed out of the woods of Wisconsin and eastern Minnesota by the Ojibwa (the Chippewa). The Lakota then pushed the Crow tribe off its territory and the ripples moved west.

Finally, the distant arrival of the Europeans did not stop the continuation of traditional patterns of warfare among the more distant tribes who continued to fight over territory in the same way they had done for generations.

#### Wars of Conquest: Europeans against the Native Americans

With the beginnings of colonial activity and expansion of European powers into North America, each European country extended its power in service of its own interests. Thus the indigenous people faced encounters ranging from violent conquest and displacement to alliance and trade.

#### THE SPANIARDS

The European campaigns against Native American tribes began with the earliest landings in the Caribbean by the Spanish. Small groups of Europeans were incredibly successful in the face of generally overwhelming numbers. The Spanish set the example for this both with their relatively easy conquest of the Caribbean Islands of Hispaniola and Cuba as well the smaller islands and their later conquests in Mexico and Peru. The keys to their success were the differing approach to warfare between the Europeans and the Native Americans, the superior technology of the Europeans, intertribal differences, and the impact of disease.

The initial Spanish forays into the North American continent were exploratory expeditions, which operated more as raids, searching for more wealth, as had been found in Mexico and Peru, and when not finding it, moving on. Oftentimes, their meandering was more the result of rumors spread by native leaders than deliberate routes planned by the explorers and conquistadors. The Spanish generated hostility by their incessant demands for food and gold that resulted in the local natives offering various levels of noncooperation or resistance. These early expeditions, especially the efforts of Hernando de Soto, beginning in Florida and wandering as far north perhaps as the Carolinas and then west to the Mississippi Valley, were unsuccessful in locating any vast new areas of riches. However, both de Soto's expedition and Coronado's through the American Southwest as far north as Kansas did provide valuable information on the native peoples and basic weather and terrain conditions.

Subsequent Spanish expeditions established settlements in Florida and Southwest, especially in New Mexico. These settlements were a combination of military outposts and missionary churches. The Spanish were generally able to overawe the natives with firearms, steel, and cavalry, to which the native tribes of the Southeast and Southwest had no effective answer. The Spaniards were very careful to prevent firearms and initially horses from falling into the hands of the Native Americans.

The relatively easy, though at times violent and bloody, conquest of the borderlands was tested in 1680 by a widespread uprising of the Pueblo Indians. Drought and high temperatures as well as increasing Spanish demands on the Pueblos, combined with a series of successful raids by Apaches, Navajos, and Plains Indians, resulted in the

first unified uprising against the Spanish in New Mexico. It would be thirteen years before another expedition would reconquer the province of New Mexico. By 1700 the Spanish had again occupied the Pueblo territory and reestablished settlements, decimating the Pueblo population in the process. After 1700 the Spanish continued to expand the area under their direct control, and while they met continued opposition from native groups, the basic pattern remained the same, small numbers of Spaniards overawing larger numbers of natives. However, when the natives were incited and supplied as well as supported by other Europeans, the conflict took on the characteristics of an imperial border war.

#### THE FRENCH

The French in New France and the Mississippi River Basin had a much different experience in that the French were not interested in large-scale settlement and agriculture or mining. Instead, they were interested in the fur trade, which required the cooperation of the Native Americans. Therefore, with few exceptions the French chose to establish very good relations with the natives and in fact offered their active support against their friends' traditional enemies, such as the Iroquois. Thus, very quickly the warfare on the French frontiers adopted the characteristics of imperial border warfare, with both Europeans and Native Americans on both sides of the conflict.

#### THE DUTCH

The Dutch established settlements in what is today New York prior to the settlement of the English Pilgrims and Puritans in New England. The Dutch, while interested in settlement and agriculture, were also very interested in the fur trade, which resulted in a bifurcated policy, on one hand displacing Native Americans in the Hudson River Valley, and on the other operating as suppliers and sometime allies to the Iroquois of the northern and western frontier areas. Dutch penetration into the Connecticut River valley in the 1630s helped to bring on the Pequot War, which was primarily but not exclusively fought by English settlers against the Pequot tribe.

Nothing in this world is to be feared . . . only understood. • Marie Curie (1867-1934)

#### THE ENGLISH (BRITISH AFTER 1701)

The British were almost exclusively interested in acquiring land for agricultural use, which entailed the displacement of the local native tribes and much resultant warfare. The English settlers brought from England the tradition of the militia, all military-age males were required to provide their own weapons and train a specific number of days a year and were liable for service within the colony. The English settlements relied on this militia force for both its defensive capability and its offensive capability against Native Americans and other threats to the security of the colony.

The most significant problem the English settlements faced was their dispersal on farms and in small villages along the frontier. As the frontier advanced inland, the Native Americans had a ready and vulnerable set of targets to strike at with their traditional raid and ambush tactics. The English responded by fortifying houses in the villages, launching periodic punitive campaigns against the Native Americans, and conducting active militia patrols and ambushes along likely Indian approaches during times of trouble. The English faced repeated uprisings and minor wars with native tribes from 1622 in Virginia until 1675, in both King Philip's War in New England and Bacon's Rebellion in Virginia, as well as many other conflicts along their expanding frontiers.

#### Imperial Warfare in North America

Various forms of conflict between European powers in North America and the waters along its coasts and in the Caribbean began in the middle portion of the 1500s as the Dutch rebelled against Hapsburg Spanish rule. Their naval and privateer forces, later joined by English privateers, attacked Spanish settlements and treasure ships. About a century later, the Anglo-Dutch Wars of the 1650s and early 1660s also slipped over into North America, with the English gaining control of the Dutch settlements along the Hudson River from Albany in the north to New Amsterdam in the south. The English renamed the colony and the major port city at the mouth of the Hudson New York.

It was however between the French and the English that the longest, most costly, and in the end most significant of these imperial wars was waged. Between 1689 and 1763, the English and the French faced off in a series of four separate yet interrelated conflicts. These conflicts were characterized by a blending of frontier-type warfare, reminiscent of native warfare with numerous bloody but brief ambushes and raids along the frontier, and the more traditional European-style confrontation of siege and setpiece battle, though the numbers involved in these battles were generally very small compared with their European counterparts.

These wars grew in scope and intensity throughout the period. By 1763 the British had committed a significant portion of their regular army to the colonial struggle in North America, but not before they generated increasing colonial resentment for what were perceived as disappointments, broken promises, and outright betrayals of the colonial cause. Early on, the British colonists had determined that their security would never be insured and their ability to expand into the interior would be constrained until the French had been driven from both Canada and the Ohio and Mississippi river basins. For the colonists this was not a case of a series of imperial border wars between the mother countries, their colonists, and their native allies. It was instead a war of survival, and in order to survive the French and Indian threat had to be destroyed at its source, the French settlements along the St. Lawrence and the fur trading posts along the lakes and rivers of the interior. It was not until 1758 that the British government under William Pitt the Elder adopted the same view.

It was during the fourth and final war, the Seven Years War in Europe or the French and Indian War in North America, that all the components of warfare in North America came together: extended large-scale border ambushes and raids conducted by Native Americans allied with local militia or European regulars, the largest of these being Braddock's defeat on the Monongahela River in 1755; large-scale European-style sieges of Fort William Henry, Louisburg, and Quebec (though Louisburg had been besieged several times before); and, finally, the single largest European-style set-piece battle fought out on the Plains of Abraham near Quebec, which signaled the end of French rule in North America (though the peace treaty would not be signed for another four years).

The final significant aspect of post-Columbian warfare in North America occurred shortly after the Treaty of Paris in 1763 when unrest among former French-aligned Native American tribes broke out in what is commonly and mistakenly referred to as Pontiac's Rebellion. In an attempt to pacify the Indians, reduce costs, and minimize frontier warfare, the British adopted what is known as the Proclamation of 1763, which attempted to limit colonial expansion. It failed to limit expansion and only further inflamed colonial resentment already high over British hesitancy in the long period of warfare, newly reimposed mercantilist policies, and newly enacted taxes on the colonies to pay for the cost of the wars. In the end all this combined to produce the American Revolution in 1775.

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# **Further Reading**

- Anderson, F. (2000). Crucible of war: The Seven Years War and the fate of empire in British North America, 1754–1766. New York: Albert A. Knopf.
- Axtell, J. (1985). The invasion within: The contest of cultures in North America. New York: Oxford University Press.
- Canny, N. (Ed.). (1998). The origins of empire. New York: Oxford University Press
- Carr, R. D. (1998). "Why should you be so furious?": The violence of the Pequot War. *Journal of American History*, 85(3), 876–909.
- Chet, G. (2003). Conquering the American wilderness: The triumph of European warfare in the colonial Northeast. Boston: University of Massachusetts Press.
- Higginbotham, D. (1987). The early American way of war: Reconnaissance and appraisal. William and Mary Quarterly, 44(2), 230–273.
- Hirsch, A. J. (1988). The collision of military cultures in seventeenthcentury New England. *Journal of American History*, 74(4), 1187– 1212.
- Josephy, A. (1994). Five hundred nations. New York: Alfred A. Knopf.
- Keener, C. S. (1999). An ethnohistorical analysis of Iroquois assault tactics used against fortified settlements of the Northeast in the seventeenth entury. *Ethnohistory*, 46(4), 777–807.
- Leach, D. E. (1986). Roots of conflict: British armed forces and colonial Americans, 1677–1763. Chapel Hill: University of North Carolina Press
- Leach, D. E. (1958). Flintlock and tomahawk: New England in King Philips War. New York: MacMillan.

- Leckie, R. (1999). "A few acres of snow": The saga of the French and Indian Wars. New York: Wiley and Sons.
- Marshall, P. J. (1998). The eighteenth century. New York: Oxford University Press.
- Peckham, H. H. (1964). *The colonial wars*, 1689–1762. Chicago: University of Chicago Press.
- Steel, I. K. (1994). Warpaths: Invasions of North America, 1613-1765. New York: Oxford University Press.
- Swanson, C. E. (1985). American privateering and imperial warfare, 1739–1748. William and Mary Quarterly, 42(3), 357–382.
- Weber, D. J. (1992). The Spanish frontier in North America. New Haven, CT: Yale University Press.
- White, R. (1991). The middle ground: Indians, empires, and republics in the Great Lakes region, 1650-1815 (F. Hoxie & N. Salisbury, Eds.). Cambridge, UK: Cambridge University Press.

# Warfare— Pre-Columbian Mesoamerica and North America

The identifiable history of specialized weaponry in pre-Columbian North and Middle America begins some three thousand years ago, against a backdrop of knives, spears, and atlatls (spear-throwers). These hunting implements probably formed part of the tool inventory that accompanied the first migrants into the New World. Although they could be turned to martial use, they were primarily utilitarian. Armed conflicts at this point probably involved clashes between contacting groups, with the weaker fleeing the stronger rather than the two groups engaging in sustained confrontations.

# Emergence of Warfare

Warfare emerged after the development of settled, agricultural communities, which became widespread in Mexico between 2500 and 1400 BCE and much later in North America. (Although this article covers both North America and Mesoamerica, it will concentrate on Mesoamerica, as the development of complex society, including warfare, was more developed much earlier there and



the archaeological record is richer.) The creation of settlements paralleled the growth of political complexity and specialized weapons, which do not emerge in isolation but require complex social support. The earliest evidence of such weaponry occurs with the Olmecs of the southern Mexican Gulf coast after 1150 BCE.

Hunting tools such as atlatls were used, but it was clubs, maces, and stone-tipped spears that emerged as the most important weapons. Clubs, maces, and spears used as staff weapons (a blade set on a staff, such as a halberd in Europe) are quintessentially martial arms, whose expert use is not readily adapted from ordinary life. Designed to capture and kill people, these arms required specialized training.

These weapons also emphasized hand-to-hand combat; spears were used for thrusting and slashing rather than throwing, and clubs and maces were used as crushers. Hand-to-hand shock weapons, not projectiles, dominated early Olmec battlefields. Defensive arms—shields. helmets, and armor—were rare among the Olmecs, perhaps reflecting their monopoly on dedicated weapons of war. Whether the Olmecs employed their forces individually or in organized formations is unknown, but given the low populations of Olmec settlements—with maximum populations of about 1,500 to 2,500 people per settlement—Olmec armies were almost certainly small. Some soldiers may have accompanied merchants traveling throughout Mesoamerica, though they were for the most part employed domestically, a fact that is more easily understood when one realizes that typical march rates without roads averaged approximately 19 kilometers per day. Even merchants used dirt trails because formal stone roads had yet to be developed. The appearance of slings and spherical stone and clay shot by 900 BCE gave the Olmecs an effective projectile capability, which, combined with their shock tactics, let them dominate the battlefield for the next half millennium. And their way of war spread with them.

The Olmecs had spread over much of central Mexico and down the Pacific coast as far as El Salvador, but around 550-500 BCE, they began withdrawing from these outlying settlements and apparently retreated back into their heartland on the southern Veracruz/northern Tabasco gulf coast. One suggestion as to why this happened is that the invention of irrigation in the highlands led to a competitive disadvantage for the Olmecs that they had previously enjoyed owing to the greater fertility of the coastal lowlands. Following the Olmec withdrawal after  $500 \ \text{BCE}$ , thrusting spears dominated elite warfare in Mesoamerica. Clubs persisted among nonurban groups, but along with maces they became less common as the use of helmets and large wood, cane, and leather shields spread. Faced with these defenses, warriors turned from clubs and maces to longer, lighter cutting and penetrating arms. Armor also reduced the effectiveness of slings, which ceased to be used as elite arms, though they persisted as tools. The appearance of large bodies of opposing soldiers also suggests the emergence of formations. Specialized fortifications also emerged: There were fortifications at smaller sites for protection, but larger ones arose to dominate local regions. Walls at least tripled the strength of defenders, minimized logistical problems, and permitted the use of a larger percentage of the populace. Walls give defenders a major advantage over attackers by giving them places from which to fight with maximum protection—and with food and other supplies close at hand—while forcing the attackers to expose themselves with little or no protection. Some walls were accompanied by extensive dry moats, but many were hilltop fortifications whose altitude multiplied the difficulty of assaults.

#### Organizational Innovation at Teotihuacan

The next major development was organizational, combining units with reinforcing arms. At Teotihuacan, the great city of central Mexico that flourished from approximately 150 ce to between 650 and 750, some soldiers used thrusting spears and bucklers that increased mobility, while others wielded atlatls and darts with rectangular shields that offered less mobility but greater protection. These shock and projectile weapons units reinforced each other, firing on the enemy from a distance (the effective range of an atlatl was approximately 53 to

#### Tribute to the Aztecs

The twenty-two towns of the Gulf coastal province of Tochtepec sent the following tribute to the Aztecs at Tenochtitlan each year:

4,800 decorated cloaks

800 women's tunics

1 feathered warrior costume and shield

1 gold shield

1 back device of yellow feathers

1 gold diadem

1 gold headband

1 necklace of gold beads

1 necklace of gold beads and bells

3 large greenstone beads

3 necklaces of round greenstones

4 necklaces of greenstones

20 lip plugs of clear amber, decorated with gold

20 lip plugs of crystal, set in blue smalt and gold

80 handfuls of rich green (quetzal) feathers

16,000 balls of rubber

4 bundles of rich green and yellow feathers

8,000 little handfuls of rich blue feathers

8,000 little handfuls of rich red feathers

8,000 little handfuls of rich green feathers

100 pots of fine liquidambar

200 loads of cacao

Source: Berdan, F., & Anawalt, P. R. (1992). Codex Mendoza, (folio 46r: vol. 3). Berkeley, CA: University of California Press.

63 meters) while the spearmen closed in for hand-tohand combat. Superior helmets of cotton quilted between fabric also appeared, affording enough protection to permit the use of smaller shields.

Using complementary units halved the number of combatants who could be brought to bear at any one time, but Teotihuacan extended military training beyond the elite, allowing it to field far larger armies than was possible when warfare was the domain of the elite only. Teotihuacan's more open system was not adopted in other cities in Mesoamerica, but its arms were, which perhaps accounted for Teotihuacan subsequently adopting armor. By 500 CE, two types of quilted cotton armor some two to three inches thick was in wide use in Teotihuacan's armies. One was a full-body armor that covered all the limbs; the other was a quilted tunic reaching the knees. Both types were proof against atlatl darts fired from a distance, most spear thrusts, and virtually all stones fired from a sling.

Armor, however, was extremely costly, as all the cotton had to be imported and extensively worked, so it was probably worn by only a minority. A greater problem was that it restricted the wearers' mobility. The advantages armor did offer were not enough to stop the tide from turning against Teotihuacan, which fell by about 650–750 CE.

During Teotihuacan's heyday, permanent settlements had also emerged in North America, and by 600, bows and arrows had spread throughout North America. At this time, there were no bows and arrows in Mesoamerica; they arrived around 1100 or shortly thereafter. Their use spread from the north southward. presumably having come ultimately from Asia. Bows were mainly hunting tools, but they could be used as weapons that could strike effectively at a distance and from ambush. So while there is little evidence of sustained combat in North America, clashes became more deadly.

With Teotihuacan's demise, sizeable organized armies largely vanished. Among the Maya, where armor was rare, clubs and maces persisted, often coupled with bucklers, while spearmen used long, easily transportable flexible shields. Stone-pointed thrusting spears continued to dominate, but some now boasted serrated blades running down both side of the shafts as far as a foot to produce longer slashing surfaces while remaining light.

Maya innovations spread into central Mexico around 700 CE. Thrusting spears were adopted, along with round

shields carried on the left wrist to free that hand, but armor was gone. Combat was lighter and more mobile, but unsuited to large-scale conquest and was associated with groups in hilltop fortifications rather than with conventional armies.

#### **Developments** in North America

Warfare was becoming endemic in North America after 900 CE, owing at least in part to the increased reliance on a better array of crops (notably corn), which led to larger, more tightly-knit and clustered settlements and the political leadership that comes with them. Armed with bows and arrows, nomadic groups preyed on the settled, who also clashed with each other. As time went by, warfare became more organized and complex, especially in the southwest and southeast after 1000 CE. Many settlements became centralized, defensive sites were occupied, and military societies emerged, though with the exception of what may have been oak swords, little new weaponry was developed. In the southeast, no armor emerged, but bladed clubs were used, indicating specialized warrior groups, and major towns now had palisades, all signs of more centralized polities. Heads were taken as trophies.

#### **Developments in** Mesoamerica, 900-1200

The next major shift in central Mexico came with the Toltecs, the major power in the region from approximately 900 to 1200. The Toltecs combined atlatls, knives, and a curved, bladed, wooden short sword with round shields and light body armor. The wrist-borne shields freed the left hand to carry darts, which soldiers could fire until they met the enemy, whereupon they shifted to swords: A single combatant thus had both projectile power prior to closing and a light shock weapon. Fortification declined with the rise of this offensive emphasis.

Arms and armors did not change significantly in the Maya area at that time, except as they were introduced from central Mexico. But one development had a significant military consequence. In some areas, Maya roads built for all-weather, swift movements were used to link internal political regions militarily.

Siegecraft was never well developed in Mesoamerica, owing to logistical constraints that rendered it extremely difficult to maintain an attack on a distant region unless walls could not be quickly breeched or scaled with ladders. There is evidence of a stationary siege tower built to pour counterfire on the defenders of a pyramid temple in tenth-century Yucatán, but generally, combat comprised the clash of opposing armies, and Toltec light infantry dominated the battlefield until their downfall. The Toltec demise may have been hastened by the influx of peoples from the ever drier north, who brought bows and arrows into central Mexico for the first time and disrupted the flow of trade with their hit-and-run tactics, against which large conventional armies were ill-suited.

#### Aztec Warfare

The Aztecs, who became established in central Mexico in the early 1300s and whose empire flourished from 1430 to 1521, made the last major weapons innovations. Under their empire, a preindustrial military complex supplied the imperial center with materials not available locally, or manufactured elsewhere. The main Aztec projectiles were arrows shot from bows and darts shot from atlatls, augmented by slingers. Arrows could reach well over a hundred meters, and slingstones much farther, but the effective range of atlatl darts (as mentioned earlier, about 60 meters) limited the beginning of all barrages to that range. The principle shock weapons were long, straight oak broadswords with obsidian blades glued into grooves on both sides, and thrusting spears with bladed extended heads. These arms culminated a long developmental history in which faster, lighter arms with increasingly greater cutting surface were substituted for slower, heavier crushing weapons. Knives persisted, but were used principally for the coup de grâce. Armor consisted of quilted cotton jerkins, covering only the trunk of the body, leaving limbs unencumbered and head free, which could be covered by a full suit of feathers or leather according to accomplishment. Warriors also carried 60centimeter round shields on the left wrist. Where cotton was scarce, maguey (fiber from agave plants) was also fabricated into armor, but the long, straight fiber lacked the resilience and warmth of cotton. In West Mexico, where clubs and maces persisted, warriors protected themselves with barrel armor—a cylindrical body encasement presumably made of leather.

City walls and hilltop strongholds continued into Aztec times, but construction limitations rendered it too costly to enclose large areas. Built in a lake, the Aztec capital of Tenochtitlán lacked the need for extensive defenses, though the causeways that linked it to the shore had both fortifications and removable wooden bridges.

By Aztec times, if not far earlier, chili fires were used to smoke out fortified defenders, provided the wind cooperated. Poisons were known, but not used in battle, so blowguns were relegated to birding and sport. Where there were sizeable bodies of water, battles were fought from rafts and canoes. More importantly, especially in the Valley of Mexico, canoe transports were crucial for deploying soldiers quickly and efficiently throughout the lake system. By the time of the Spanish conquest, some canoes were armored with wooden defensive works that were impermeable to projectiles.

# The Importance of Organization

Despite the great emphasis placed on weaponry, perhaps the most crucial element in warfare in Mesoamerica was organization. Marshaling, dispatching, and supplying an army of considerable size for any distance or duration required great planning and coordination. Human porters bearing supplies accompanied armies in the vanguard (the body of the army); tribute empires were organized to maintain roads and provide foodstuffs to armies en route, allowing imperial forces to travel farther and faster than their opponents; and cartographers mapped out routes, nightly stops, obstacles, and water sources to permit the march and coordinate the timely meeting of multiple armies at the target.

What distinguished Mexican imperial combat from combat in North America was less technological than organizational. More effective weapons are less important than disciplining an army to sustain an assault in the face of opposition; that task requires a political structure capable not merely of training soldiers, but of punishing them if they fail to carry out commands. Polities with the power to execute soldiers for disobedience emerged in Mexico but not in North America; those polities had a decisive advantage over their competitors.

In North America, chiefdoms dominated the southeast beginning after 900 CE, and wars were waged for status and political domination, but the chiefdoms of the southwest had disintegrated after 1200 CE, and pueblos had emerged from the wreckage. (We use the term pueblos to refer to the settled tribal communities of the southwest, but chiefdom is a political term that reflects the power of the chief, which was greater than that exercised by the puebloan societies after the collapse around 1200 ce.) There too warfare played a role, though for the pueblos wars were often defensive engagements against increasing numbers of nomadic groups. The golden age of North American Indian warfare emerged only after the arrival of Europeans, their arms, and horses. But even then, in the absence of Mesoamerican-style centralized political authority, individual goals, surprise attacks, and hit-andrun tactics dominated the battlefield, not sustained combat in the face of determined opposition.

Ross Hassig

# **Further Reading**

Andreski, S. (1968). *Military organization and society*. Berkeley and Los Angeles: University of California Press.

Ferguson, R. B., & Whitehead, N. L. (1992). War in the tribal zone: Expanding states and indigenous warfare. Santa Fe, NM: School of American Research Press.

Hassig, R. (1988). Aztec warfare: Imperial expansion and political control. Norman: University of Oklahoma Press.

Hassig, R. (1992). War and society in ancient Mesoamerica. Berkeley and Los Angeles: University of California Press.

Hassig, R. (1994). Mexico and the Spanish conquest. London: Longman Group.

LeBlanc, S. A. (1999). Prehistoric warfare in the American southwest. Salt Lake City: University of Utah Press.

Otterbein, K. F. (1970). The evolution of war: A cross-cultural study. New Haven, CT: HRAF Press.

Pauketat, T. (1999). America's ancient warriors. MHQ: The Quarterly Journal of Military History, 11(3), 50–55.

Supreme executive power derives from a mandate from the masses, not from some farcical aquatic ceremony. • Monty Python and the Holy Grail (1975)

Turney-High, H. H. (1971). Primitive war: Its practice and concepts. Columbia: University of South Carolina Press.

Van Creveld, M. (1989). Technology and war: From 2000 B.C. to the present. New York: The Free Press.

# Warfare— Pre-Columbian **South America**

outh America was a relatively isolated continent before 1492. It thus provides us with interesting opportunities to compare world-historical processes in different continents that were largely or completely independent of each other. To the extent that we can find parallels between processes in the Old and New Worlds in pre-Columbian times, they may tell us something about recurring patterns in world-historical processes that are independent of culture. Warfare is a phenomenon that can be understood from a world systems perspective, in the sense that the occurrence and forms of warfare are considered expressions of the economic relations between different societies at considerable distances from each other. The comparison of patterns and forms of warfare in the Old and New Worlds can thus reveal something about general properties of world systems. Our information on warfare in pre-Columbian South America comes primarily from three sources: archaeology, ethnohistory (that is, indigenous peoples' own historiography), and contact period history. The bulk of this information is from the Andes. To make sense of these various kinds of information, it is useful to organize it both regionally and chronologically, as well as in terms of a coherent framework of interpretation. The two macroregional divisions considered here are the Andean area and Amazonia.

#### The Andean Area

The Andean mountain range that runs along the entire extent of western South America saw the development of many complex societies such as chiefdoms, states, and empires during three and a half millennia before the Europeans arrived. The Spaniards who in 1532 conquered the Inca empire encountered the last of these complex indigenous societies. Like its many predecessors, the Inca state can be understood as an attempt to control the resources, human labor, and flows of goods in the central Andean area. The varied geography of the region had for thousands of years stimulated trade between the arid coast, the mountains, and the tropical rainforests in the eastern lowlands. Attempts to politically control such trade through military means can in northern Peru be traced to the Initial Period of pottery use (1800-800 BCE). A powerful theocratic state based in the Casma valley on the north coast appears to have maintained trade relations with the north-central highlands and the tropical forest areas beyond. Toward the end of the Initial Period, the Casma polity collapsed and the area was invaded by its former trading partners in the highlands, associated with the site of Chavín de Huántar on the upper Marañon River on the eastern slope of the Andes. This initiated the first of three major pre-Columbian attempts by highland societies to take advantage of their middleman position between coast and jungle to gain political power. The carved monoliths at Cerro Sechín, a ceremonial center from this period in the Casma valley, show armed men and their dismembered victims, indicating an emphasis on violence, but we do not know if they represent war scenes or ritual sacrifice. As sites in this period are not fortified, it appears that social integration was achieved more by economic and ritual means than by violent coercion.

During the Early Horizon (800–200 BCE), the highland Chavín polity exerted influence over much of Peru. The traditional view is that the widespread distribution of Chavín art designs reflects a religious cult that spread by peaceful means, but defensive fortifications on the north coast suggest that military confrontations also occurred. Conflicts may have arisen regarding control of trans-Andean trade routes conveying Ecuadorian Spondylus shell and tropical forest produce, or of coca-producing zones, following a pattern known from later periods.

# Incan Diplomacy

... the Incas marched to the valley of Pachacamac and the chief Cuismancu advanced to defend his territory with a large force. The Inca general sent to him to say that it would be well not to fight until they had conversed more fully on the subject of their gods... The Inca general also declared that . . . henceforth they would . . . look upon the Rimac, whom the Yuncas [the people of the valley of Pachacamac] worshipped, as a sacred oracle. And he proposed by way of brotherly exchange, that they should also take the Sun as a god . . . The Yuncas agreed to worship the Sun like the Incas...The King Cuismancu was to remain in the enjoyment of his lordship...Peace was established on these conditions...proper garrisons and officers... placed in the new territory...

Source: de la Vega, G. (1941). The first part of the royal commentaries of the Incas, London, 1869-1871: Vol. 2. (p. 189). In J. Bram, An analysis of Inca militarism (p. 52). Seattle: University of Washington Press.

Trophy heads appear not only on north coast pottery, but also on chavinoid Paracas textiles on the south coast and in the art of Pukara in the Titicaca basin. Skull fractures indicating blows to the head occur among the mummies at Paracas. The Chavín interaction sphere began to disintegrate in the third century BCE.

In the Early Intermediate Period (200 BCE-600 CE) the decidedly more militaristic Moche state controlled much of the north coast and built heavy fortifications against a highland polity based at Cajamarca. Such defensive architecture typically consisted of hilltop bastions with walls, moats, and stores of sling stones, but as they lacked water they appear to have been built as protection against brief raids rather than long-term sieges. Trophy heads occur on Moche ornaments, and the pottery shows many realistic war scenes, with warriors in helmets with maces and shields, and the sacrifice of prisoners. Recuay pottery from the adjacent highlands also shows warriors with clubs, shields, or trophy heads. Moche expansion relied on a mixture of military conquest and voluntary conversion of local chiefs, a pattern that continues through later expansions including the Inca. Prestigious older polities were sometimes incorporated peacefully by indirect rule. Examples of this include the Casma area within the Moche state and the oracle of Pachacamac on the central coast, venerated throughout its existence up until the arrival of the Spaniards. On the south coast, Nazca pottery shows trophy heads and later also militaristic motifs, but the area seems not to have been subjected to centralized state rule. Toward the end of the period, the expansion of the Tiwanaku polity in the Titicaca basin shows little direct indication of military conquest, but there is evidence of human sacrifice and the hostagetaking of subject peoples' sacred objects. In northwest Argentina, warriors and trophy heads appear as artistic themes at this time.

In the Middle Horizon (600–1000 CE), a short-lived but powerful state based at Wari in the Mantaro basin, in the south-central highlands, seems to have controlled the south and central coasts in their entirety and almost all of the Peruvian highlands from the city of Pikillagta in the south to Cajamarca in the north. Like its southern counterpart Tiwanaku, Wari based much of its power at the periphery of its domain on dispersed administrative centers that regularly hosted ceremonial feasts for local leaders. Although some sites suggest a military presence, such as on the boundary of Tiwanaku in the southern highlands, relations with earlier polities in the northern highlands and on the coast show little evidence of militarism. As in earlier periods, however, there is evidence of human sacrifice and ritual decapitation. During this period, the Moche state declined and shifted its capital farther north. The Wari empire collapsed around 800 CE and Tiwanaku about two centuries later.

In the Late Intermediate Period (1000–1476 CE), the collapse of Wari and Tiwanaku left smaller polities warring with their neighbors throughout southern and central Peru. One of these was the emergent Inca state based in the Cuzco valley on the southern boundary of the former Wari empire. The endemic warfare selected for militaristic leadership in Cuzco as elsewhere. Most archaeological sites from this period are fortified or located on easily defensible hilltops. Coastal and highland groups in central Peru fought over access to the best coca-producing lands at intermediate elevations. In the north, the old Moche state revived as the expansive coastal empire of Chimor (or Chimú), based at the metropolis of Chan Chan. Like earlier north coast polities, Chimor controlled the crucial maritime trade in Spondylus shell from Ecuador.

In the Late Horizon (1476-1532 CE), the Inca state expanded through a combination of diplomacy and militarism to create an empire stretching from Ecuador to central Chile. The military history of this expansion has been reconstructed in some detail, thanks to native Quechua historiography recorded by sixteenth-century Spanish chroniclers and to archaeology. Over the course of less than a century, the Inca were able to assimilate or subdue hundreds of states, chiefdoms, and ethnic groups, including the old kingdoms of the Titicaca Basin, the Chanka and Wanka polities of the Wari heartland, the empire of Chimor, and finally even most of modern Ecuador, the source of the prestigious Spondylus shell. Further expansion failed when Inca armies faced simpler but warlike societies in unfavorable environments in northern Ecuador, the eastern lowlands, Argentina (Chiriguano), and central Chile (Mapuche). On the frontier in northern Ecuador, the Inca used fortresses from earlier polities in the area, while on the southeast frontier in Argentina they built a series of new fortresses to stave off attacks from the Chaco tribes. When Francisco Pizarro (c. 1475–1541) and his 260 Spanish soldiers arrived, the Inca empire was divided by a civil war between two sons of the former emperor, of which the victorious Atawallpa, destined to be executed by Pizarro in 1533, was based at Quito. Building on native narratives, the chroniclers' accounts of this civil war, battle by battle, are the most detailed description of pre-Columbian warfare in existence. Recruitment to Inca armies was by a general draft apparently aligned with the decimal administrative system, which divided the population into groups of ten, one hundred, and so on. Weapons included slings, bows and arrows, bolas, spears, spear-throwers, lances, axes, and bludgeons. Armor and shields were also used.

Some general conclusions on the occurrence of warfare in the pre-Columbian Andes can be drawn. There seems to have been a distinctly Andean tradition of diplomacy through voluntary conversion and indirect rule that, in many cases, offered means of control other than military conquest. In the periods we call horizons, when large parts of the area were well integrated ideologically, whether or not this was achieved with the aid of military force, there was comparatively little warfare, except at the borders of the unified territories. In the intermediate periods, following the disintegration of such polities, there was much more conflict between different local populations and ethnic groups. Conflicts often seem to have involved rivalry over the control of strategic resources or trade routes. The emergence of new power centers generally occurred on the periphery of previous polities, challenging older centers and contributing to their decline. Warfare, like the nonviolent practice of power it complemented, was always embedded in religious or symbolic meanings and often had a ritual aspect, such as headhunting and human sacrifice. This is evident even in the Inca period, for instance from accounts of divination and sacrifice in preparation for battle, and from reports that the skins of defeated enemies (e.g., defiant Kañari warlords from Ecuador or rebellious lords from the Titicaca area) could be fashioned into drums played at festivals, and their skulls into drinking cups. The obsession with ritualized warfare, human sacrifice, and cannibalism that has been attributed to the Chibcha-speaking chiefdoms of the Colombian Andes probably had much in common with early instances of theocratic warfare in the central Andes.

#### Amazonia

Our relative lack of information on pre-Columbian warfare in Amazonia is due partly to the very much poorer archaeological record, owing to the tropical climate and the dominance of organic materials in the material culture of Amazonian groups, and partly to the fact that the social fabric of the region was fundamentally transformed by European epidemics for over a century before the arrival of potential chroniclers. The little information that we have includes archaeological discoveries of defensive ditches around villages on the Río Negro and the upper Xingú rivers, and the eyewitness account, written by the friar Gaspar de Carvajál in 1542, of an unintentional expedition down the Amazon from Ecuador to the Atlantic which at various points encountered flotillas of canoes laden with warriors or riverbank armies equipped with spears, shields, bows and arrows, or blowguns with poisoned darts. Historical and ethnographical data can probably be used to make some inferences about pre-Columbian patterns, but they remain uncertain. From the first millennium BCE, Arawak-speaking peoples inhabited much of the fertile floodplains and the wet savannas from Orinoco in Venezuela to the Llanos de Mojos in Bolivia. Many of these societies were populous chiefdoms engaged in riverine trade and intensive agriculture. The Arawaks are to this day unusual in prohibiting endowarfare, war among themselves, which is quite common in other linguistic families. The floodplain societies were the first to succumb to European epidemics and slave raids. Linguistic groups such as Caribs and Tupí have been described as warlike and prone to cannibalism, but it is hard to say how much of the warfare observed by early Europeans in the region was a response to upheavals following their arrival, as decimated and enfeebled riverine groups were subjected to systematic predation by previously marginal groups. The ideology of predation that has been posited as common to most Amazonian Indians, and as generative of endemic warfare and ritual cannibalism, probably has pre-Columbian roots but may have been exacerbated during the colonial period. Feuding among simpler groups has commonly involved raiding for women (bride capture), headhunting, and accusations of sorcery, whereas the more complex pre-Columbian chiefdoms would have competed over floodplain areas and trade in prestige goods such as metal objects from the Andes. Carvajál reports that the Tupí-speaking Omagua on the upper Amazon took prisoners of war from inland groups, keeping some as slaves and taking head trophies from others. He also notes that they had spear-throwers with gold and silver inlays, which were probably of Andean origin.

In sum, warfare generally had quite different cultural meanings to the indigenous South Americans and to the European conquistadors of the sixteenth century, which in part explains the incapacity of the former to resist the latter. On the other hand, it seems generally possible to relate the occurrence of warfare to similar kinds of historical processes, for instance the struggle to control important resources or trade routes, and the shifting balance of power between centers and peripheries in regional or global systems of exchange.

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#### **Further Reading**

Benson, E. P., & Cook, A. G. (Eds.). (2001). Ritual sacrifice in ancient Peru. Austin: University of Texas Press.

Bram, J. (1941). An analysis of Inca militarism. Seattle: University of Washington Press.

Chagnon, N. A. (1968). *Yanomamö: The fierce people*. New York: Holt, Rinehart and Winston.

D'Altroy, T. N. (2002). The Incas. Malden and Oxford: Blackwell.

Ferguson, R. B., & Whitehead, N. L. (Eds.). (1992). War in the tribal zone: Expanding states and indigenous warfare. Santa Fe, NM: School of American Research Press.

Haas, J. (Ed.). (1990). The anthropology of war. Cambridge, UK: Cambridge University Press.

Haas, J., Pozorski, S., & Pozorski, T. (Eds.). (1987). The origins and development of the Andean state. Cambridge, UK: Cambridge University Press

Hemming, J. (1970). The conquest of the Incas. London: Abacus.

Hemming, J. (1978). Red gold: The conquest of the Brazilian Indians. London: Macmillan.

Hill, J. D., & Santos-Granero, F. (Eds.). (2002). Comparative Arawakan histories: Rethinking language family and culture area in Amazonia. Urbana: University of Illinois Press.

Keatinge, R. W. (Ed.). (1988). Peruvian prehistory: An overview of pre-Inca and Inca society. Cambridge, UK: Cambridge University Press.

Morey, R. V., Jr., & Marwitt, J. P. (1978). Ecology, economy, and warfare in lowland South America. In D. L. Browman (Ed.), Advances in Andean archaeology (pp. 247–258). Paris: Mouton.

Moseley, M. E. (1992). *The Incas and their ancestors*. London: Thames and Hudson.

Redmond, E. M. (Ed.). (1998). *Chiefdoms and chieftaincy in the Americas*. Gainesville: University Press of Florida.

Salomon, F., & Schwartz, S. B. (Eds.). (1999). The Cambridge history of the native peoples of the Americas: Vol. 3. South America. Cambridge, UK: Cambridge University Press.

Viveiros de Castro, E. (1992). From the enemy's point of view: Humanity and divinity in an Amazonian society. Chicago: University of Chicago Press



# Warfare— South Asia

Throughout most of its long history, South Asia has consisted of a multitude of states, all vying against one another for power, territory, and domination. At times, certain states have expanded outward from their core areas to form India-wide or regional empires, such as the Mauryan empire (c. 324–183 BCE), the Cola empire (850–1279 CE), or Vijayanagara (c. 1346–1565 CE). South Asian empires have also been erected by foreign invaders, as in the case of the dynasties of the Delhi sultanate (1192–1526), the Mughal dynasty (1526–1857), and the British (c. 1850–1947). All these contests have involved warfare.

#### Traditional South Asian Warfare, 2600 BCE—1720s CE

Very little is known of the military aspects of the first recorded South Asian civilization—the Harappan civilization (c. 2500–1900 BCE)—since its script has not yet been deciphered. That it possessed citadels and walled cities seems to indicate a need for military protection. The Harappans had rudimentary bronze weaponry, mostly swords, spearheads and arrowheads. Most probably, their enemies were not formidable in terms of either ability or numbers. Although it was initially thought that the Harappan civilization was destroyed by the invading Indo-Aryan tribes, current research posits that environmental factors caused its demise, around 1900 BCE.

#### THE COMING OF THE INDO-ARYANS

From about 1500 BCE, seminomadic, pastoralist, and Sanskrit-speaking Aryan tribespeople began penetrating South Asia from the northwest. Although they possessed sophisticated military technology in the form of the light two-wheeled war chariot, the incoming Aryans were not a disciplined army led by a great leader on a campaign of swift conquest. Indeed, the Aryan "conquest" was more of a migration, measured in generations rather than

in years. The numerous Aryan tribes—about forty are mentioned in the Rig Veda, a sacred text dating from the second millennium BCE, if not earlier—were not peaceful. They were in constant conflict with one another, mostly over cattle, which was how they measured relative wealth and power. (The ancient Sanskrit word for fighting literally means "to search for cows.") The mythical conflict between the Kauravas and the Pandavas, which forms the central narrative of the epic *Mahabharata* has a factual kernel, probably originating as a tribal war over cattle and land in what is now northern Punjab.

When not fighting amongst themselves, the Aryan tribes fought the indigenous Dasas. We know that the Dasas had many forts, because the Rig Veda often refers to Indra, the main Aryan god, as Purandaradasa— "destroyer of the Dasa forts." Dasa forts may well have been wooden, for Arvan hymns often call upon Agni, the fire god, to help defeat the Dasas. In the Rig Veda, a war between two Arvan tribal groupings was won by a King Sudasa, whose name indicates that some Dasas had already been assimilated into Aryan culture. Evidence of Aryan attempts to invade and settle peninsular India is contained in the other great Indian epic, the Ramayana, which tells the story of the Aryan Prince Rama's expedition to Lanka (Sri Lanka) to rescue his wife Sita, who has been abducted by the evil demon king, Ravana. Rama was aided by the monkey-god Hanuman; some see in Hanuman and his people a reference to the aboriginal tribes or the Dravidian peoples of southern India.

By 500 BCE, the mixing of the Aryan and indigenous peoples had resulted in the distinctive *Varna* (caste) social pattern, which most resembled the estates or orders of Medieval Europe, and set the template for what became Hinduism. Here, the second-ranking *Kshatriyas* were the varna of warriors and kings. Yet, throughout the traditional period, considerable social mobility existed, especially in warfare. Lower varna men fought in the Mauryan armies, alongside charioteers and Elephants, and by the eleventh century, it was not uncommon for men from the lowest *Vaishya* (merchant) or *Shudra* (labourer) varnas to assume Kshatriya or *Rajput* (literally, "son of a king") status through military service.

Indian peasantry supplemented their agrarian incomes by soldiering, which was seen as an honourable profession. A military labor market, mediated by military entrepreneurs known as *Jama'dars*, became a feature of precolonial India.

#### Magadha and the Mauryan Empire

Kingdoms had developed on the Gangetic plain by 500 BCE. One of these, Magadha, straddling the Ganges River in modern-day Bihar, was responsible for introducing the war elephant into South Asian warfare. Elephants soon became as important as chariots in South Asian warfare. Besides becoming the traditional mount of rajas, elephants were used to trample and slaughter enemy troops, batter down enemy forts, for transport, and as archery platforms. However, elephants were expensive and difficult to maintain, and only the richer Indian polities could afford large numbers of them. Archery was also well developed by 500 BCE. Indian archers used double-curved, composite wood-and-horn bows, which had a range of about 100-120 meters. In battle, archers on foot were shielded by a rank of javelin-armed infantry. The absence of swift horses in South Asia resulted in the transformation of the twowheeled chariot into the four-wheeled armored chariot carrying many more archers. Thus, though their offensive power increased, their battlefield mobility was impeded. Magadha also developed the catapult.

Magadha became the basis for the Mauryan empire (c. 324–c. 200 BCE), during which time the *Arthasastra*, a classic work of Indian statecraft that adopted an amoral, realist approach to war and diplomacy, appeared. Reputedly authored by the philosopher and imperial adviser Kautilya (flourished 300 BCE), it included details on military organization, strategy, tactics, and logistics and stressed the value of effective espionage and bribery. That the Mughal emperor Aurangzeb (1618–1707; reigned 1658–1707) wanted to abolish the special fund for bribing enemy forts, and that the British under Robert Clive (1725–1774) defeated the forces of the nawab (provincial governor) of Bengal at Palasi (1757) through

bribery demonstrates the remarkable continuity of Kautilyan strategies.

#### CAMPAIGNS

Throughout this period, campaigns of the Indian empires, both north and south, were essentially similar. Armies were moving cities, complete with large bazaars to handle supply. War elephants were the most important component until about 1100 ce. They were displaced by the heavy cavalry of the Muslim invaders, who reintroduced the stirrup—originally invented in South Asia in the first century—to warfare there. The stirrup, by anchoring the rider firmly to the horse, made cavalry a true shock weapon, and more useful than elephants in battle.

Siege engines, and after about 1350, large bombards and cannon—which required industrial and financial capacity that only the large empires could sustain—were highly unwieldy, requiring hundreds of pack-oxen. This meant that the progress of an imperial army was painfully slow, about 8 kilometers per day even in Mughal times. Given the nine-month long, monsoon-delimited campaigning season, an imperial army's typical reach was between 1,080 and 1,200 kilometers. Campaigns were also slowed by the nature of the frontiers, which were imprecise bands of territory between two core areas, inhabited by petty rajas who would either have to be coopted or subdued before the invading army could proceed. Battles were short and confused affairs, the onus being on individual heroic prowess rather than on disciplined maneuver. If a king or commander were killed or captured, then as in *chaturanga*, the precursor to chess that was popular among members of the Kshatriya class, his army was considered defeated.

Traditional Indic warfare was land based. The only exception to this were the Colas, who, under Rajaraja I (reigned 985–1014) and his successor Rajendra I (reigned 1014–1044), took to the sea to conquer Sri Lanka and Srivijaya (an empire located on the islands of Sumatra and Java). The strategic vision impelling these seaborne campaigns was the control of Southeast Asian maritime trade.

# Selection from the Hindu religious text Bhagavad Gita on War and Warriors

Considering also your duty as a warrior you should not waver. Because there is nothing more auspicious for a warrior than a righteous war. (2.31)

Only the fortunate warriors, O Arjuna, get such an opportunity for an unsought war that is like an open door to heaven. (2.32)

If you will not fight this righteous war, then you will fail in your duty, lose your reputation, and incur sin. (2.33)

People will talk about your disgrace forever. To the honored, dishonor is worse than death. (2.34)

The great warriors will think that you have retreated from the battle out of fear. Those who have greatly esteemed you will lose respect for you. (2.35)

Your enemies will speak many unmentionable words and scorn your ability. What could be more painful than this? (2.36)

You will go to heaven if killed, or you will enjoy the earth if victorious. Therefore, get up with a determination to fight, O Arjuna. (2.37)

Treating pleasure and pain, gain and loss, victory and defeat alike, engage yourself in your duty. By doing your duty this way you will not incur sin. (2.38)

The wisdom of Saamkhya (or the knowledge of the Self) has been imparted to you, O Arjuna. Now listen to the wisdom of Karma-yoga endowed with which you will free yourself from the bondage of Karma. (2.39)

In Karma-yoga no effort is ever lost, and there is no harm. Even a little practice of this discipline protects one from great fear (of birth and death). (2.40)

Source: EAWC Anthology: The Bhagavad Gita. (R. Prasad Trans.). Retrieved April 8, 2003, from http://eawc.evansville.edu/anthology/gita.htm

#### The Mansabdari System

Traditional Indic polities were segmentary, essentially "military confederation[s] of many chieftains cooperating under the leadership of the biggest among them" (Stein 1980, 55). Loyalty was a problem. The Mughals met this challenge with the mansabdari system, which entailed granting a specified rank to a noble and entitled the noble to revenue from an assigned area of land. Mansabdari ranks carried with them the duty to provide a specified number of cavalrymen for battle. A rank was not hereditary, however, and could be revoked at the emperor's pleasure. The mansabdari system was an early attempt at creating military professionalism in India.

## Colonial South Asian Warfare, 1720-1947

European penetration of India, which had far-reaching military consequences, began in the 1600s, with the appearance of European trading companies on India's shores. Initially, the armed forces of the main contenders —the English and the French East India Companieswere not a serious threat. But by the 1720s, the French, balking at the high cost and low survivability of European soldiery in Asia, were recruiting Indian musketeers, whom they called sepoys, after the Persian word *spahi*, meaning soldier, and training them in the latest European tactical doctrine of close-order drill and volley firing. Battles such as Adyar River in 1746 and Buxar in 1764 proved that small sepoy detachments could defeat much larger Indian hosts. The British copied the French, and both countries took advantage of the political flux resulting from the Mughal empire's decline to become players in South Asian geopolitics.

The English proved more successful at this, defeating the French twice (1744-1748 and 1749-1754). They then turned their attention to defeating the Indian polities, winning wars against Mysore (1767-1769, 1780-1784, 1790–1792, 1799), the Marathas (1775–1782, 1803–1805, 1817–1818), the Gurkhas (1814–1816), and the Sikhs (1845–1846, 1848–1849). Each of these wars resulted in the widening of the English East India Company's (EIC's) territory. The Marathas and the Sikhs

# A Woman Warrior Fights the British

Lakshmi Bai stands as a heroine of India for her stirring leadership against the British in the late 1850s. Raised by her widowed father, Lakshmi Bai learned sword-fighting and shooting as a youth. She married the Maharaja of Jhansi (a principality in northern India), but was widowed at age eighteen. Although Lakshmi Bai and an adopted son were the Maharaja's rightful heirs according to Hindu law (meaning the child could take the throne with Lakshmi Bai ruling in his stead), the British refused to accept them as such and ordered Lakshmi Bai to leave Jhansi. Resisting the British dictum, Lakshmi Bai gathered a volunteer army, training women as well as men for warfare. When the British attacked in 1858, Lakshmi Bai and her army fought back for two weeks. Just before her army's defeat, Lakshmi Bai donned men's clothing and strapped her son to her back to go into battle. Holding the reins of her horse between her teeth, she used both her hands for sword-fighting. Athough Lakshmi Bai and her forces had to leave Jhansi in defeat, she met up with other rebel forces at a fortress some one hundred miles away. After several more days of fighting, however, Lakshmi Bai died in battle. She continues to be remembered—through story, song, and even a commemorative stamp—as a symbol of Indian resistance to British rule.

Marcy Ross

were formidable foes who adopted Western tactics and weaponry. To fight them, the EIC tapped into the military labor market to vastly increase the size of their land forces. By 1796 these numbered 57,000 sepoys, bolstered by an additional 13,000 British troops; by 1856 there were 226,352 sepoys and 38,502 British troops. These were distributed amongst the three "presidency" armies, of Bengal, Bombay (now Mumbai), and Madras. These armies only cooperated during wartime; otherwise they were fairly autonomous. This autonomy extended to recruitment. While the Bombay and Madras armies

recruited Indians of many communities and castes, the Bengal army, which was also the largest, increasingly recruited Brahmans (that is, people of the highest-status *varna*) of the Gangetic heartland. The EIC ensured that sepoy wages were regularly paid, in contrast to the rather haphazard arrangements obtained in the Indian polities. This increased the incentive for Indians to become EIC sepoys. The EIC state financed its land forces by resorting to military fiscalism: It used its army to accrue territory, the revenue from which was used to finance its army.

#### THE UPRISING OF 1857-1858

By the mid-nineteenth century, sepoy units were commanded by British officers, with a subordinate Indian officer class acting as a crucial liaison between the British officer and the Indian private soldiers, but effectively barred from higher command. In 1857 the Bengal Army's Hindu and Muslim sepoys rose up against their British officers. The mutiny was sparked by the fears of the sepoys that the British were conspiring to make them transgress their religion through the introduction of new weaponry lubricated with animal fat forbidden by religious law to both Hindus and Muslims. But the military mutiny quickly became a generalized revolt against the EIC. Cantonment (garrison) towns such as Lucknow and Kanpur became centers of revolt, as did the old imperial city of Delhi, where sepoys gathered with vague ideas of restoring the Mughal empire. The heavily outnumbered British were caught completely off guard. Had the mutinous sepoys attacked Calcutta, the capital of British India, they might have won. As it was, the British were able to rally, relying on Punjabi sepoys and on reinforcements that arrived by sea. That quelling the uprising took a full two years speaks to its seriousness and to the military prowess of the Indian leaders such as Rani (Queen) Lakshmi Bai (1835–1858) of Jhansi, and Tantia Topi (c. 1819-1859).

After the "Mutiny," as the British termed it, the British Crown took over the Indian empire and its army. Measures were undertaken to prevent another mutiny. The ratio of British to Indian troops was set at one to three, and recruitment, even in the Bombay and Madras armies, Ambition must be made to counteract ambition. The interests of the man must be connected with the constitutional rights of the place. • James Madison (1751–1836)

was focused more towards the northwest. The Indian military was thus separated from Indian society. British authorities justified this on the basis of the "martial-races" ideology, a mixture of practical concerns and Victorian ethnography, which held that in India, "only certain clans and classes...[had]...the physical courage necessary for the warrior" (MacMunn 1911, 129). These "martial races" included Sikhs, "Punjabi Musalmans" and Nepali Gurkhas. To further ensure against mutinies, the ethnic composition of Army units was strictly monitored.

#### South Asian Forces Abroad

During the late nineteenth century, South Asian warfare centered on the Indo-Afghan frontier, the scene of the "Great Game," a rivalry between the Russian and British empires. Over twenty campaigns and the Second Afghan War (1878–1880) were fought in largely fruitless attempts to control the area's tribes. During this time the cost of the Indian army, which amounted to about 30 percent of the Indian budget, was entirely borne by Indians. Indian forces also participated in military efforts in many parts of the British empire, mainly in Africa and Asia.

This overseas deployment was greatly increased during World War I (1914–1918), in which India, as a British imperial possession, was committed to the Allies. The unified Indian army's Meerut and Lahore divisions, as Britain's strategic reserve, were deployed on the Western Front (France) in 1914–1915. Sepoys also saw action in the disastrous Mesopotamian campaign (1915–1916), in East Africa (1915-1918), and in Palestine (1917-1918). The prospect of fighting their Ottoman coreligionists caused Muslim sepoys at Singapore to mutiny in 1915. Sepoy recruitment skyrocketed, reaching 10,000 men a month by 1915. By 1918 India had recruited 1.4 million men for the Allied war effort, many from classes previously deemed "unmartial." In 1917 Indians were allowed into the Indian Army's officer corps, which had, until then, been "... properly reserved for the governing race." (Sundaram 2002, 75).

After World War I, the army reverted to its frontier warfare role. It was also used to disperse Indian nation-

alist disturbances, most notoriously at Amritsar in 1919. Some sepoys' refusal to fire on nationalist demonstrators at Meerut in 1930 indicates that they were becoming nationalist themselves. This period also witnessed the setting up of officer training for Indians in India itself. The British strongly preferred "martial-race" Indians (such as Sikhs and Punjabi Muslims) as officers, and posted them to only 7.5 percent of the army.

During World War II the Indian army again ballooned, to 2.2 million men, and men from nonmartial groups were recruited in increasing numbers, though Indian nationalists resented being once again dragged into war without being consulted. Though the Indian army fought in the North African and Italian campaigns, its most significant deployments were in Malaya in 1941–1942 and in Burma (now Myanmar) in 1941-1945. Malaya was a harsh battleground for the Indian army, which was ill-trained and ill-equipped for jungle warfare; 45,000 Indian jawans (soldiers) were captured by the Japanese. Out of this group was formed the Indian National Army (INA), a force allied to the Japanese, whose aim was to gain Indian independence from Britain. Though not a significant military threat, the very existence of such a force was further proof of the upwelling of nationalist feelings in the military and of the fact that, once the war was over, jawans would not stand for continued British rule. After shattering defeats, the Indian army overhauled itself in 1943–1944, and met and defeated the Japanese invasion of northeastern India in 1944. Whereas in 1939 there were only eleven Indian majors, by 1945 40 percent of the Army's officers were Indian, and there were Indian brigadiers.

# South Asian Warfare since 1947

The partition of British India into the sovereign states of India and Pakistan in 1947 resulted in the partition of the old Indian army, endemic warfare between the two new states, centered mainly around the border area of Kashmir, and differing models of civil-military relations. Broadly, the army was divided on a two-to-one ratio, with

two units going to India for every one going to Pakistan. Partition gave Pakistan most of the cantonments and training facilities, but gave India the war industries. Between 1947 and 1999, India and Pakistan fought four wars, one of which, in 1971, led to the independence of East Pakistan as the nation of Bangladesh. Two of the wars have been stalemates and two have been Indian victories. These wars have been short, reflecting the immense cost of modern warfare for developing countries. Insurgency still continues in Kashmir, which has been unofficially partitioned. Though the military officers of both countries are still mostly drawn from the "martial races," their civil-military relations are radically different. Whereas the Indian military has been effectively subordinated to the civilian democratic government, Pakistan has been subjected to long periods of military rule (1958–1972, 1977–1988; 1998–present). Both countries now have nuclear weapons but are reasonably stable states.

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## **Further Reading**

- Basham, A. L. (1954). The wonder that was India: A survey of the history and culture of the Indian sub-continent before the coming of the Muslims. London: Collins.
- Cohen, S. P. (1991). The Indian army: Its contribution to the development of a nation (2nd ed.). Delhi, India: Oxford University Press.
- Gaylor, J. (1992). Sons of John company: The Indian and Pakistani armies. 1903–1991. Tonbridge Wells, UK: Spellmount.
- Gommans, J. J. L. (2002). Mughal warfare: Indian frontiers and the high roads to empire. London: Routledge.
- Gommans, J. J. L., & Kolff, D. H. A. (Eds.). (2001). Warfare and weaponry in South Asia, 1000–1800. Delhi, India: Oxford University Press.
- Harfield, A. (1990). The Indian army of the empress, 1861–1903. Tonbridge Wells, UK: Spellmount.
- Heathcote, T. A. (1995). The military in British India: The development of British land forces in South Asia, 1600–1947. Manchester, UK: Manchester University Press.
- Kautilya. (1990). The Arthashastra (L. N. Rangarajan, Trans. & Ed.). Delhi, India: Penguin.
- Kolff, D. H. A. (1990). Naukar, Rajput and Sepoy: The ethnohistory of the military labour market in Hindustan, 1450–1850. Cambridge, UK: Cambridge University Press.
- Kukreja, V. (1991). Civil-military relations in South Asia: Pakistan, Bangladesh and India. London: Sage.
- Longer, V. (1974). *Red coats to olive green: The Indian army, 1600–1974*. Bombay (Mumbai), India: Allied.

- MacMunn, G.F. (1911). The armies of India. London, UK: Adam & Charles Black.
- Marston, D. P. (2003). Phoenix from the ashes: The Indian army in the Burma campaign. London: Praeger.
- Mason, P. (1974). A matter of honour: An account of the Indian army, its officers, and men. London: Macmillan.
- Menezes, S. L. (1993). Fidelity and honour: The Indian army from the seventeenth to the twenty-first century. New Delhi, India: Viking Penguin.
- Moreman, T. R. (1998). The army in India and the development of frontier warfare, 1849–1947. Basingstoke, UK: Macmillan.
- Nath, R. (1990). Military leadership in India: Vedic period to Indo-Pak wars. New Delhi. India.
- Pande, S. R. (1970). From sepoy to subedar: Being the life and adventures of Subedar Sita Ram, a native officer of the Bengal army, written and related by himself (J. Lunt, Ed.). London: Macmillan.
- Peers, D. M. (1995). Between Mars and mammon: Colonial armies and the garrison state in India, 1819–1835. London: I. B. Tauris.
- Praval, K. C. (1987). Indian army after independence. New Delhi, India: Lancer International.
- Roberts, F. S. (1898). Forty-one years in India: From subaltern to field marshal. London: Macmillan.
- Rosen, S. P. (1996). Societies and military power: India and its armies. Ithaca, New York: Cornell University Press.
- Sarkar, J. N.(1984). The art of war in medieval India. New Delhi, India: Munshiram Manoharlal.
- Sen, L. P. (1969). Slender was the thread. New Delhi, India: Orient Longman.
- Stanley, P. (1998). White mutiny: British military culture in India. New York: New York University Press.
- Stein, B. (1980). Peasant state and society in medieval south India. Delhi, India: Oxford University Press.
- Sundaram, C. S. (1995). A paper tiger: The Indian National Army in battle, 1944–45. War & Society, 13(1), 35–59.
- Sundaram, C. S. (2002). Reviving a "Dead Letter": Military Indianization and the Ideology of Anglo-India, 1885-1891. In P. S. Gupta & A. Deshpande (Eds.), *The British Raj and its Indian armed forces*, 1857-1939. Delhi, India: Oxford University Press

# Warfare— Southeast Asia

Indigenous warfare has been an important component of Southeast Asian society. Not only did methods of warfare change and improve over time, but warfare emphasized social relationships as well. The purpose of armed conflict changed over time and was interpreted differently from the way it was interpreted in the West.



## Gender and Social **Implications**

Before foreign intervention and the introduction of firearms to Southeast Asian societies in the fifteenth and sixteenth centuries, headhunting was a prevalent form of conflict both on the mainland and in archipelagic Southeast Asia. Headhunting raids allowed male warriors to prove their manhood and indicate preparation for marriage. Failure in these raids was considered a disgrace and damaged men's social status. Armed conflict was carried out in the context of ceremonies to honor and glorify ancestors and spirits. Banging of drums and the use of women and children in the occupation of fortifications to aid and encourage male warriors reinforced gender relationships. Even after guns became available, armies in Burma and Bali relied on small numbers of warriors armed with primitive weapons in order to gain access to spiritual forces and keep honor intact. Numerous societies in Bali and Java considered warfare as an expression of society and mysticism.

Religion was a justification for warfare as well. Buddhism was active in Southeast Asian societies, and Buddhist leaders waged war whenever there was a threat from competing religions or whenever they felt that the religion's influence was declining.

### Interpretations of Warfare

European nations that established a commercial presence in Southeast Asia during the fifteenth and sixteenth centuries viewed warfare differently from the indigenous inhabitants. Europeans adhered to the Prussian general Carl von Clausewitz's view that war was a tool to achieve political objectives and not an end in itself. This differed somewhat from, for example, the view of war held in Dai Viet (Vietnam). The Vietnamese considered war as a means to an end, but the end was the attainment of material goods and war captives for human labor purposes, not territorial ambition. Similarly, on the islands of Bali and Java, prisoners of war were used as slaves and exported between 1650 and 1830. This was a common feature of warfare in most Southeast Asian countries. The objective was booty and political control and not territorial ambition or diffusion of civilization. One sought to control an enemy capital and its nearby communities to secure material and human resources rather than to change individuals' ways of life.

Between 1407 and 1427, Ming China defeated Vietnam and occupied the country, including its capital, Hanoi. The Vietnamese studied the advanced military techniques and the bureaucracy and government of the Ming. Eventually the Vietnamese drove out the Chinese, but as a result of Ming influence, the Vietnamese came to believe—as the Ming Chinese did—that war should be used to civilize barbarous cultures. The Vietnamese used force against their southern and northern neighbors, the Chams and Tai. Exploration of new lands and their annexation were other justifications for warfare that the Vietnamese and other Southeast Asian civilizations slowly adopted.

The tactical use of terrain in combat was critical in waging conflict. Vietnamese armies used the terrain to achieve success on the battlefield during their wars against the Chams and Tai. In campaigns against the Chams, Vietnamese commanders relied on amphibious assaults and regular troop movements on flat coastal areas. Against the Tai, who occupied valleys and mountain regions, Vietnamese armies conducted quick strikes and flanking movements in order to avoid becoming trapped and isolated in the mountains.

### Foreign Influence and Methods of War

European and Chinese governments occupied and dominated parts of Southeast Asia as far back as the fifteenth century. They brought with them new weapons that altered indigenous warfare. Firearms, although not common, were available by the fifteenth century from both sources and allowed Southeast Asian societies allied to the Europeans or Chinese to subdue their less wellequipped neighbors. Bows, arrows, lances, blowpipes, and animals such as horses and elephants were gradually replaced with cannons and muskets. Kingdoms in Malaysia and Indonesia retained traditional weapons

# Vietnam Revolts against French and Japanese Rule

In August 1945 the Vietminh launched the August Revolution to free Vietnam from French and Japanese rule. In September, Ho Chi Minh declared Vietnam's independence in a formal Declaration of Independence, extracts of which are provided below.

For more than eighty years the French imperialists, abusing their "liberty, equality, and fraternity," have violated the land of our ancestors and oppressed our countrymen. Their acts are contrary to the ideals of humanity and justice.

In the political domain, they have deprived us of all our liberties. . . .

In the economic domain, they have exploited us without respite, reduced our people to the blackest misery and pitilessly looted our country....

In the autumn of 1940 when the Japanese Fascists, with a view to fighting the Allies, invaded Indochina to organize new war bases, the French imperialists, on their knees, surrendered our country....

For these reasons we, members of the Provisional Government, representing the entire population of Viet Nam, declare that we shall henceforth have no relations with imperialist France, that we cancel all treaties which France has signed on the subject of Viet Nam, that we abolish all the privileges which the French have arrogated to themselves in our territory. . . .

Viet Nam has the right to be free and independent and is, in fact, free and independent. All the people of Viet Nam are determined to mobilize all their spiritual and material strength, to sacrifice their lives and property, to safeguard their right to liberty and independence.

Hanoi: September 2, 1945 Signed: Ho Chi Minh, President [Fourteen additional signatures]

Source: Isaacs, H. M. (1945). New Cycle in Asia. As translated from La Republique (pp. 163-165), No. 1 (October).

while adopting new ones in order to maintain tradition. Firearms were mythologized in a positive manner.

Twentieth-century warfare in Southeast Asia saw a new concept emerge. Guerrilla and protracted conflict was prevalent as a means to defeat imperialism and enhance nationalist sentiment. Filipino rebels made use of guerrilla raids against U.S. troops during the early 1900s but were eventually conquered. During the Japanese occupation of China and Southeast Asia in the 1930s and 1940s, Chinese nationalists and rebels used guerrilla tactics and foreign aid from the West to achieve victory and end foreign domination. Guerrilla warfare flourished during the Cold War as indigenous Communist forces attempted to unify their countries under a Soviet brand of Communism or their own style of socialist government.

The Vietnamese defeat of the French at Dien Bien Phu in 1954 and their eventual strategic victory over the United States in the Vietnam War showed how successful guerrilla warfare and manipulation of public opinion could be in overthrowing foreign domination. The United

States' involvement in Vietnam introduced changes in the conduct of war and foreign affairs in general. Now the consensus is that nations should have clear objectives, a popular base of support, approval from the world community, and credibility if they are to wage a war successfully.

## Warfare in Southeast Asia Today

Terrorist activities by Islamic fundamentalists in the late 1990s and into the early twenty-first century have continued the earlier trend toward guerrilla warfare and protracted conflict. Western powers such as the United States continue to support, either directly or indirectly, low-level warfare against those deemed terrorists or insurgents.

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## **Further Reading**

Andaya, B. W. (2003). Aspects of warfare in premodern Southeast Asia. *Journal of Economic and Social History of the Orient*, 46(2), 139–142.
Benjamin, D., & Simon, S. (2002). *The age of sacred terror*. New York: Random House.

Black, J. (1999). Warfare in the eighteenth century. London: Phoenix

Charney, M. W. (2004). Warfare in early modern South East Asia. South East Asia Research, 12(1), 5-12.

Hagerdal, H. (2004). War and culture: Balinese and Sasak views on warfare in traditional historiography. South East Asia Research, 12(1), 81–118. Reid, A. (1993). Southeast Asia in the age of commerce, 1450-1680: Volume II. Expansion and crisis. New Haven, CT: Yale University Press. Sun Laichen. (2000). Ming-Southeast Asian overland interactions. Unpublished doctoral dissertation, University of Michigan.

Sun Laichen. (2004). Chinese military technology and Dai Viet, c. 1390-1497. In Nhung Tuyet Tran & A. Reid (Eds.), Viet Nam: Borderless histories. Madison: University of Wisconsin Press.

Whitmore, J. K. (2004). The two great campaigns of the Hong-duc era (1470–97) in Dai Viet. South East Asia Research, 12(1), 119–136.

Wolters, O. W. (1999). History, culture, and region in Southeast Asian perspectives (Rev. ed.). Ithaca, NY: Southeast Asia Publications.

# Warfare— Steppe Nomads

The nomadic pastoralists of the Central Asian steppes L played a major role in Eurasian warfare from nearly six thousand years ago until the early eighteenth century. Their wars, internal and external, shaped patterns of politics, trade, and cultural exchange throughout the Eurasian world, and they produced some of the most successful and fearsome conquerors world history has known.

## The Military Implications of Geography

The foundation of nomadic military interaction with and success against their sedentary neighbors was the geography of the steppes. A vast sea of grass stretching from the northwest frontiers of China to north of the Black Sea, with an extension into modern Hungary, the steppes are too dry for traditional methods of agriculture: rainfall is insufficient and the rivers too unreliable for irrigation. But the grasses of the plains can support vast herds of grazing animals, and these formed the basis for the nomad's pastoral mode of subsistence. Cattle, sheep, and goats provided meat, milk, skins and wool for clothing and shelter; animal bones and tendons were used in constructing tents and above all in the manufacture of the composite recurved bow that was the nomads' main weapon in hunting, herding, and war. One other animal held the key to nomadic efficiency in herding and combat: the horse. Horses were apparently first domesticated in the area north of the Black Sea as long as six thousand years ago; they and the oxen that drew the carts that carried the nomads' tents and possessions let entire peoples migrate from summer to winter grazing lands and to entirely new lands in response to outside pressures. Horses also gave steppe armies tremendous tactical and strategic mobility.

Mobility and firepower, wielded by people accustomed to constant travel, camping, occasional short rations, and periodic violent competition with other nomads for the best grazing land—that is, accustomed to constant military campaigning as a lifestyle rather than as an aberration from settled life—gave nomadic peoples significant military potential vis-à-vis their sedentary agriculturalist neighbors outside the steppes. At the same time, the limitations of pastoralism necessitated at least indirect contact with sedentary populations: Nomads needed at least a few agricultural products to supplement their diet. They also desired certain products, most importantly cloth and metal implements, whose fixed capital requirements for production made them difficult for nomadic peoples to produce. Thus, nomadic peoples tended to get what they wanted from agricultural societies by trading, raiding, tribute (bribes to deter raids), or conquest. This was the fundamental economic backdrop to steppe nomads' warfare with people beyond the steppes.

## Geography and State Formation on the Steppes

Nomadic warfare was in the first instance intertribal, aimed at other nomads in competition for grazing lands, as mentioned earlier. Because the pastoral way of life supports a far less dense population than agriculture, individual tribes could rarely muster sufficient manpower to pose a serious threat to sedentary states. Hindered by their meager surplus wealth and scattered population base, steppe peoples rarely generated political formations more complex than individual tribes. The paradoxical result was that nomadic coalitions (and therefore the nomadic military threat) were most likely in close proximity to rich settled states. Trading and small-scale raiding along the border might generate a sufficient flow of prestige goods to a successful steppe leader to allow him to build a larger coalition of tribes through a combination of alliances built on gifts and intimidation of others based on those alliances. This larger coalition's army could then extract a larger flow of goods from the sedentary state (and could draw attention from sedentary armies, increasing the pressure for defensive cooperation), allowing the coalition to grow, and so on. Large coalitions subsumed, at least for a time, their constituent tribes into chiefdoms and at least once, under the Mongols, into a fully fledged nomadic state, though such coalition chiefdoms tended to be fragile and to break up in the face of serious reverses or succession crises. Thus, warfare and strong war leaders were crucial to state formation on the steppes.

Another aspect of steppe geography tended to concentrate such state formation at the eastern end of the steppe. Here, the Mongolian plain abutted the northwest frontier of the Chinese civilization, which from the second century BCE was consistently organized into a rich and periodically aggressive state. In addition, migration of hunter-gatherers from the forests and tundra to the north generated new tribes and pressures more intensely here than farther west. The largest and most powerful nomadic coalitions therefore tended to arise here. Losers (either internally or in conflicts with China) were pushed westwards, generating the east-to-west migrations that usually characterized steppe populations and that sometimes became nomadic incursions into settled lands at the outlets of the steppes into Persia and Europe. If the Silk Roads across the steppes connected Eurasia commercially, then the pressures of warfare and state formation on the steppes connected Eurasia militarily.

## Nomadic Warfare: Tactics and Strategy

The tactical effectiveness of nomadic warfare was based in the first instance, as noted above, on the combination of mobility and firepower that horses and composite bows gave to steppe peoples. In the hands of a practiced archer, the bow, a short but powerful weapon made from a combination of wood, horn, and sinew glued together



and strung against its natural curve, could send light arrows several hundred yards with some accuracy or direct heavier arrows over shorter ranges with dangerous penetrating power. Nomadic horse archers were skilled at harassing enemy formations from a distance, retreating when counterattacks were launched, only to return to the attack when the enemy advance became scattered or disorganized. Feigned flights were thus a standard part of the nomadic tactical repertoire. Elite nomadic warriors —tribal nobles and the favored forces of larger coalitions -often wore armor that included some sewn-on metal plates and was heavier than the leather and raw silk protection worn by regular horse-riding archers; the elite forces also wielded lances and even swords. This heavier element in nomadic armies could engage in hand-tohand combat, delivering a decisive charge against an enemy softened up by archery. Nomadic armies often drew up for battle in a broad, shallow crescent formation, the wings thrown forward with the aim of encircling the enemy flanks. But flexibility was the key nomadic strength in combat, as they used their mobility to create chances to "herd and cull" the formations of sedentary armies using the skills they practiced on mass animal hunts on the steppes.

Still, in the right terrain and under competent leadership, sedentary armies could sometimes defeat nomadic forces in battle, using their often superior weight of armor, weaponry, and numbers to break nomadic lines in hand-to-hand fighting. The battles of the Crusades between Frankish knights, who were supported by crossbowmen in chain mail, and Turkish horse-riding archers, were evenly matched affairs whose outcome depended on generalship and luck, as each side posed tactical problems for the other.

What increased the challenge posed by nomadic forces was their operational mobility and above all their strategic trump card: their base in the steppes. The armies of sedentary states, which inevitably included large numbers of infantry, could not hope to keep up with the purely cavalry forces of the steppes: The latter could outrun pursuit and avoid battle when it suited their purposes, raiding and withdrawing before opposition could arrive on the scene. The Mongols deployed this advantage offensively, using their efficient communication system to bring several units to a battlefield from different directions, often inducing panic in their enemies and giving them the impression of being surrounded by "hordes" far larger than they in fact were (the Mongols, like other nomads, often fought outnumbered against sedentary armies). But mobility was most useful defensively, in combination with the logistics of steppe warfare. When threatened by superior forces, nomadic forces could simply withdraw onto the steppes. It was very difficult for a large infantry army to follow them into this terrain because the land could not support armies that lived on grain supplies. Carting supplies in was both prohibitively expensive and subject to severe range restrictions, as the oxen or horses used to pull carts of food also had to be fed. Thus, beyond perhaps a four days' march from a supply depot, even armies with large supply trains ran out of food—never mind that water supplies were also often problematic. Attempts to push beyond this limitation consistently ended in disaster. For four and a half millennia, therefore, steppe nomads raided and conquered from a base itself immune to conquest except by other nomads. Because nomadic strategy and tactics were so firmly based in the nomadic lifestyle, sedentary generals could not adopt them easily. Adoption of nomadic techniques therefore usually required use of nomadic allies by sedentary states, an arrangement that carried its own dangers.

Given this immunity, the military measures sedentary states took against nomadic threats often centered on various forms of fortifications, since the major weakness of most nomadic armies (the Mongols being a partial exception) was, inevitably, siege warfare. Not only were city fortifications built up on the steppe frontier, but some states built larger systems of fortification such as the various walls that came to form the Great Wall of China. These were designed less to keep the nomads out (virtually an impossibility) than to slow them on their advance and return from a raid, thereby allowing a defensive force to bring them to battle. But fortifications were also expensive.

## Cycles and Stages of **Nomadic Military History**

The relationship that developed between nomadic peoples and their sedentary neighbors as a result of these military dynamics tended to follow a cyclical pattern. Small-scale raiding and trading resulted in both increasing acculturation of the nomads to the political norms of the sedentary society and increasing political organization on the steppes. Both results tended to facilitate large-scale alliance with or conquest of the sedentary state and temporary union of the nomadic and sedentary worlds. But the economic and cultural incompatibility of the two worlds led to renewed split and the cycle starting over. Overall, the long-term trend was toward growth of the sedentary world at the expense of the nomadic world. This was fundamentally a matter of demography: Agriculture supported far more people than pastoralism, and the advantage grew over time. But it was also a matter of technology. Gunpowder weapons, in combination with fortifications, paradoxically both contributed to and helped end the last great age of nomadic conquests.

Broadly, the stages of nomadic history may be outlined as follows. A classical age, from the first appearance of nomads such as the Xiongnu in China and the Scythians in the west through the late second century CE and the decline of the Parthian empire in the first decades of the third century CE, established the patterns of interaction between the nomadic and sedentary worlds. Between the third century and the twelfth century, larger nomadic coalitions of Uighurs in the east and Turks in the west dominated the steppes, with peaks of invasion and conquest of sedentary areas in the seventh and eleventh centuries. Then in the thirteenth and fourteenth centuries, the Mongols under Genghis Khan (c. 1160–1227) and his successors created the largest land empire in history. Their extraordinary success rested in part on Genghis Khan's remarkable ability to reshape the tribal political structure of nearly the entire steppe world to his advantage, creating the basis for a longer-lasting nomadic political structure than hitherto. Still, the Mongol empire fractured among Genghis's grandsons and then drifted apart as the Mongols acculturated to their conquered populations.

Finally, with the spread of gunpowder technology from the fifteenth century (a somewhat ironic result, in part, of the trade connections promoted by the Pax Mongolica), there appeared a set of hybrid states and military forces, including the Ottomans, the Mughals, the Muscovites, and the Manchus, who managed to wed nomadic cavalry forces to cannon and musket-wielding infantry. Though initially this combination facilitated the renewed conquest of vast sedentary areas by nomadic-led forces, it also proved to be the combination that allowed the empires thus created to tame, once and for all, their own nomadic frontiers. By the early eighteenth century, the remaining steppe nomads, hemmed in by fortifications, guns, and co-opted light cavalry forces of nomadic origin, passed out of the realm of military effectiveness for good.

Stephen Morillo

See also Steppe Confederations

## Further Reading

Adshead, S. A. M. (1993). Central Asia in world history. New York: St. Martin's Press.

Barfield, T. J. (1989). The perilous frontier: Nomadic empires and China. Oxford, UK: Basil Blackwell.

Chambers, J. (1979). The devil's horsemen: The Mongol invasion of Europe. London: Castle.

Christian, D. (1998). Inner Eurasia from prehistory to the Mongol empire. Oxford, UK: Basil Blackwell.

Golden, P. B. (1998). Nomads and sedentary societies in medieval Eurasia. Washington DC: American Historical Association.

Grousset, R. (1997). Empire of the steppes: A history of Central Asia. Rutgers, NJ: Rutgers University Press.

Kafesoglu, I. (1988). A history of the Seljuks (G. Leiser, Ed. & Trans.). Carbondale: Illinois University Press.

Kahn, P. (1999). The secret history of the Mongols: The origin of Chinghis Khan; An adaptation of the Yüan ch'ao pi shih (Expanded ed.). San Francisco: Cheng & Tsui Company.

Maenchen-Helfen, O. (1973). World of the Huns. Berkeley and Los Angeles: University of California Press.

Morgan, D. (1990). The Mongols. Cambridge, UK: Cambridge University Press.

Rossabi, M. (1988). Khubilai Khan: His life and times. Berkeley and Los Angeles: University of California Press.

Sinor, D. (Ed.). (1990). The Cambridge history of Early Inner Asia. Cambridge, UK: Cambridge University Press.



Bombs do not choose. They will hit everything. • NIKITA KHRUSHCHEV (1894–1971)

# Warfare, Air

Air warfare refers to military operations above the ground, including tactical support of land forces, transport of troops and matériel, and enemy observation through reconnaissance. In military history, air warfare has had the most profound impact over the shortest time. Early beginnings may be traced to late-eighteenth-century France, where paperhangers Joseph and Etienne Montgolfier launched the first hot air balloon. The French Revolutionary army incorporated a corps of balloonists, and the concept of air warfare was born. It was utilized exclusively for observation purposes for a century. By 1900 all major armies included balloon sections and experimented with dropping some form of bombs.

David Schwarz, a German, built and flew the first dirigible in 1886. Count Ferdinand von Zeppelin perfected the new technology, and demanded that his design specifically be applied in warfare. Another German, Otto Lilienthal, was the first to scientifically study wing structures and mathematical formulas explaining lift, but it was the American brothers Orville and Wilbur Wright who brought about the instrument that became the primary weapon for air warfare. Their airplane hit the world stage with the first flight on 17 December 1903 at Kitty Hawk, North Carolina.

Formal military use dates from 10 February 1908, when the U.S. Army Signal Corps ordered the first airplane and hired the Wright brothers to instruct two officers. The Frenchmen Henry Farman and Louis Bleriot proved the airplane's long-range capability by flying across the English Channel in 1909. They established the first flight schools in France, which took the initiative among all nations in the promotion of aviation. Germany pursued the development of airships, but in 1911 the government contracted with Albatros to build airplanes for military use. England followed, creating the Air Battalion of the Royal Engineers. All European nations followed suit with some form of aviation.

Italy claims a series of firsts in the use of aircraft in military situations, all achieved when it used an airplane for

observation on 23 October 1911. An Italian aircraft dropped the first bombs, had the first aviator wounded in combat, and developed the first use of radio communications in flight. As the experimental stage of aviation ended, the organizational structure was in place for the sky to become the next battlefield.

Several small European wars in 1911 and 1912 provided the testing ground for the airplane as a war machine. These included Italians and Turks fighting in Libya, the Mexican Revolution in 1910, a 1912 uprising in Morocco that was put down by France, and incidents in the Balkans between 1912 and 1913.

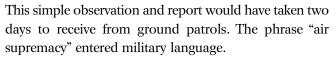
### World War I (1914–1918)

Air warfare came into its own with the first major war of the twentieth century. In 1914, 1,000 airplanes were in the service of the major powers. Five years earlier there had been none. Observation balloons marked Allied and German fronts. Their purpose was to direct artillery fire. Once the war bogged down in trench warfare, stationary balloons became easy targets of enemy aircraft. The mobility of the airplane came to the forefront, in areas that ranged from intelligence gathering to directing artillery fire. Two-thirds of the French resources were used for artillery spotting.

Air power had no precedent in military history. Twothirds of the French resources went to artillery spotting use. Aircraft was something new, and while commanders understood some of its functions, full recognition of its strategic value came slowly. The French formed the first bomber group in late 1914, but both they and the British concentrated on developing slow and stable observation craft like the BE2 and Voisin for photography and artillery spotting, while the Germans developed bombers to attack Allied trenches. Even before the war, military strategists recognized the psychological and material damage that could result from bombing. Targets were supply and communication lines, transportation, and troops. Bombers became an extension of the artillery, because with aerial observation, enemy troops could no longer shelter from artillery fire.

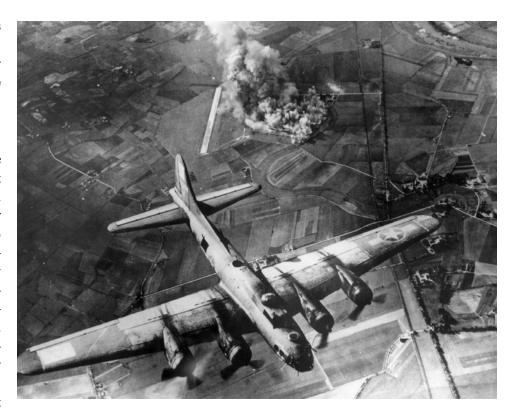
### United States bombers over Germany in 1943. Allied air supremacy was a key factor in the German defeat.

The first frontline use of the airplane occurred in August 1914, when the British Royal Flying Corps used two-seater Avro observation planes to cover their lines when Germans attacked their infantry near Amiens. The pilots observed German infantry encircling British infantry and promptly reported this, allowing commanders to redeploy troops and avert a disaster, proving the vital and efficient use of aircraft for intelligence.



In July 1913 Captain Alessandro Guidoni of Italy successfully dropped a 100-kilogram bomb. The Russian Igor Sikorsky developed the first four-engine plane in 1914 and flew it more than 2,250 kilometers. By October 1914, the Royal Flying Corps called for all observation pilots to carry bombs. German airships struck at the heart of Britain, bombing London with some 270 kilograms of high explosives and incendiary bombs. Reprisals were carried out on towns, and for the first time, civilians and prominent personalities were targeted—Kaiser Wilhelm on 1 November 1914 by the British and later Czar Nicholas II by the Germans.

The year 1916 was a critical one for the technology of air warfare. Zeppelins became easy victims of British and French antiaircraft guns and bombers. Germany developed the Gotha, a long-range bomber capable of flying at nearly 5,000 meters. The first Gotha raid on 25 May 1917, in a tight formation, heralded a major advance in air warfare and forced profound changes in the concept. By the end of 1917, attacks on major cities were common. Better bombs were developed that were not subject



to things like wind drift, and bombsights were perfected to account for factors such as aircraft speed and altitude.

The swiftly changing nature of the war ramped up aircraft technology and played a major role in the evolution of tactics using aircraft, virtually overnight. To protect bomber formations, the fighter was born—pursuit aircraft, or "scouts," such as the French Nieuport and German Fokker. The "age of aces" dawned. Fighter pilots became public heroes and celebrities. Their role not only stirred the public imagination, their individual skill perfected the art of air combat tactics. The fighter pilot became an interceptor and escort to protect the slower and more vulnerable bombers and reconnaissance craft. They claimed the highest attrition rate of any arm of the service.

Early on, pilots armed themselves with revolvers or infantry rifles, until the invention of the Lewis gun by the American Isaac N. Lewis in 1911. Weighing only 11 kilograms it was quickly adapted to aerial combat. The French Hotchkiss and British Vickers came later. The Allied concept of aerial warfare changed from bombing or reconnaissance missions to actually fighting enemy aircraft. In 1915 the Dutchman Anthony Fokker developed interrupter gear fitting the machine gun to a German airplane's Mercedes engine and allowing it to fire on

the axis of the fuselage, a major leap in the efficiency of air warfare. In 1916, the fighter arm of the air services evolved from single daring pilots targeting the enemy in a dueling fashion to formations of long-range fighters escorting bombers deeper into German-held territory. The French Air Service implemented this formation concept at Verdun in 1916. In early 1917 Germany created Flying Circuses, which were several squadrons bound together into as many as fifty machines to conduct offensive operations at points along the British sector. From 23 to 29 March 1918, the Royal Flying Corps and the Royal Naval Air Service carried out the first large-scale use of air power impacting the outcome of a battle when seventy aircraft led low-level attacks that caused the German offensive to falter.

The physical battlefield of the air spawned doctrinal guidelines and tactical principles that were published and distributed throughout the air services, especially with the introduction of formation flying. No radio communications existed between pilots and ground forces. Speed was hard to regulate. Pilots were dependent on their commanders' signals, while still vulnerable to attack from enemy aircraft overhead. Since two out of three air battles took place behind German lines, going down meant certain capture.

By 1918, an air force existed as a separate entity in the defense forces of every major power. Airplanes revolutionized warfare forever, by removing the element of surprise from the battlefield. Technology had gone from flimsy, linen-covered machines armed with rifles or revolvers, capable only of 100-kilometer-per-hour speeds and 3,000-meter ceilings, to powerful tools of war carrying over 450-kilogram bombs. Duel-like "dogfights" gave way to killing machines like the German DVII, French Spad, and British SE5 and Sopwith Camel, armed with two machine guns firing eight hundred rounds per minute, and flying up to 250 kilometers per hour at 6,700 feet in formation. Aviators were a new breed of soldier, signifying a relationship between man and machine that characterized all future wars. The legacy of innovative pilots like Oswald Boelcke, Albert Ball, Edward Mannock, Billy Mitchell, and Eddie Rickenbacker essentially remained at the core of aerial warfare for sixty years. Also, the Women's Royal Air Force was organized in April 1918, incorporating women into the military for the first time.

#### Between the Wars

The golden age of flight advanced military aircraft little. By the late 1930s, Germany and Japan led the world with the most modern air force, having more than fifty thousand planes each, while the United States and its allies had fewer than ten thousand mostly outdated machines. Hermann Goering pioneered the next phase in air warfare with the German Luftwaffe. The Spanish Civil War in 1936 provided an opportunity to develop dive-bombing tactics, and monoplanes replaced biplane design, producing such fighters as the Messerschmitt Me-109 in Germany. But tactics in the Second World War began virtually where they had left off twenty-two years earlier, except the machines were far more advanced. The British Spitfire fighter, introduced in 1938, could go more than 550 kilometers per hour and had a ceiling of over 12,000 meters. Sir Hugh Trenchard of the Royal Flying Corps and the Italian army officer Giulio Douhet were the chief European proponents of strategic bombing to destroy enemy centers. In 1918 Trenchard and the American general Billy Mitchell had planned to carry out extensive attacks on German industrial sites and drop troops behind the German frontlines, but the war ended before they could do so.

## World War II (1939–1945)

World War II began with land and sea campaigns. Airpower played a subordinate role, supporting land forces. Germany invaded Poland in 1939, bombing its major cities and destroying its air force. Germany's blitzkreig attack on London in 1940 was the first battle fought exclusively in the air. British fighter pilots recognized the same tactics applied that their forebears had perfected in 1917 and 1918: the fighter going one on one with the enemy bomber. England developed strategic bombing capability while Germany concentrated on more

cooperation between ground attack aircraft. The Japanese attack on Pearl Harbor on 7 December 1941, using precision reconnaissance and fighters armed with torpedoes, destroyed most American combat aircraft in the Pacific, and proved that aircraft would be a premier tactic in modern warfare.

The Second World War built on the lessons of the First, though many ideas had become obsolete. For the Allies, twelve-man fighter squadrons protected supply lines against the Japanese fleet in the Pacific. The development of radar by the British in 1939 changed the element of surprise. Radio communication advances allowed immediate contact with pilots and ground control to pinpoint enemy aircraft in flight. Long-range

strategic bombing became the most effective way of destroying German capability, using the B-17 and B-25 bombers in formation, in such operations as the 1,000-plane raid over Cologne in May 1942 and the Regensburg-Schweinfurt mission in August, launched from bases in England. Since escort fighters did not have the range required, bombers carried their own defenses, like the B-17 with a ten-man crew armed with .50-caliber guns. Gliders were first used for silent troop drops, and P-51 Tankbusters were very effective against German panzer divisions.

Transport pilots played an important role. The Chinese army was resupplied entirely by air—one of the greatest military achievements in history. Allied forces used C-47s



American liberator bombers and P-40 fighters at a base in China, 1943.

to drop troops to penetrate enemy-occupied territory. On D-Day, 6 June 1944, paratrooper forces dropped from airplanes led the Allied advance on Berlin to end the war. Brave pilots in rugged machines proved that air warfare dominated the outcome on the ground. A leap in aviation history occurred with the first fighter jet, developed by Germany, the Messerschmitt ME 262. Other German developments indicating the future were the V-1 pilotless jet-propelled rocket carrying nearly 2,000 kilograms of explosives, and the V-2, the first guided missile capable of carrying 750 kilograms of explosives more than 300 kilometers. These were launched against England in the summer of 1944, but came too late to affect the final outcome of the war.

Aircraft carriers were used effectively in the Pacific during the Battle of Midway in June 1942, and B-29s overwhelmed any Japanese home air defense. On 6 August 1944, the B-29 *Enola Gay* dropped the first atomic bomb on Hiroshima, ending Japan's war efforts without invasion, and epitomizing absolute air superiority.

# Post-World War II and Vietnam

The development of the jet engine and surface-to-air and air-to-air missiles changed the complexion of air warfare, but the piloted fighter jet played the major role in the Korean War (1950–1953). U.S. single-seat jet fighters, the F-80 and F-86, fought Soviet-built MiG-15s—both able to reach the speed and height required for air fighting, but their supersonic speed made formation flying near impossible. Once again, pilots fell back to the fighting unit introduced by Oswald Boelcke in 1916, the pair. The fighter was used for offensive and defensive day fighting, visual and photographic reconnaissance, and bombing and strafing ground targets.

The Vietnam War (1957–1975) was largely a guerrilla war fought in jungles. B-52 bombers were used for main air strikes against Communist targets, but helicopters became an important aerial warfare technique because they could easily strike targets in the jungles and mountains. Primarily the air war was between jet fighters, the Russian MiG-17 and MiG-21 jets against American F-

105 and F-4 fighters. The surface-to-air missile (SAM) antiaircraft weapon, equipped with laser-guided bombs, missile detection, and radar-jamming devices, posed a new threat to aerial reconnaissance and bombing. Better aerial refueling techniques extended the range of combat aircraft.

#### Modern Air Warfare

With the advent of computer technology, weapons systems have become more and more sophisticated and "smart." But the quest for height and the need to establish immediate air superiority remain primary battlefield objectives for air warfare. The Persian Gulf War (1991) and current operations in Afghanistan and Iraq employ the latest technology in the air to control the war on the ground. Stealth fighters like the F-117 Nighthawk with a range of 1,200 kilometers and carrying two laser-guided bombs, and the B-2 Heavy Bomber deliver surgical strikes on pinpointed targets. By deflecting radar, the Stealth bomber appears invisible to enemy forces. Its four engines hidden in the fuselage enable it to evade heat-seeking missiles.

With such undetectable machines, and computer technology, pilot skills and aircraft speed are not issues. Reconnaissance is still a predominant factor in air warfare. Unmanned predator spy planes are the ultimate reconnaissance aircraft, guided by remote control from ground stations and endangering no lives, to dispense real-time information for directing troops and warplanes. C-130 gunboats are essentially airborne artillery, echoing the early days when biplanes were used in conjunction with artillery batteries. The Apache attack helicopter can account for twenty tanks in one strike.

### The Future of Air Warfare

The future battlefield promises to be dominated by air superiority, with aircraft becoming more and more like spacecraft. The latest U-2 spy plane flies at more than 25,000 meters, at the very edge of space. The Eurofighter is a state-of-the-art fighter plane. But the ultimate goal of air warfare remains the same as that original concept one

hundred years ago—a continual battle for the air, through height and speed, to supply reconnaissance and support to ground forces.

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See also Airplane

### Further Reading

Boyne, W. J. (1994). Clash of wings: World War II in the air. New York: Touchstone Books.

Budiansky, S. (2003). Air power: The men, machines, and ideas that revolutionized war, from Kitty Hawk to Gulf War II. New York: Viking.

Collier, B. (1974). A history of air power. New York: McMillan Publishing Company.

Corum, J. S., & Johnson, W. R. (2003). Airpower in small wars: Fighting insurgents and terrorists. Lawrence: University Press of Kansas.

Crouch, T. D., & Hayden, F. S. (2000). Military ballooning during the early Civil War. Baltimore: Johns Hopkins University Press.

Fredett, R. H. (1966). *The sky on fire: The first battle of Britain*. New York: Hold, Rinehart & Winston.

Goddard, S. B. (2003). Race to the sky: The Wright Brothers versus the United States government. Jefferson, NC: McFarland.

Johnson, J. E. (1964). Full circle: The story of air fighting. London: Cassell.
 Kennett, L. (1991). The first air war 1914–1918. New York: Free Press.
 Lambeth, B. S. (2000). The transformation of American air power. New York: Cornell University Press.

Morrow, J. H., Jr. (1993). *The Great War in the air: Military aviation from* 1909 to 1921. Washington, DC: Smithsonian Institution Press.

Niellands, R. (2001). The bomber war: The allied air offensive against Nazi Germany. New York: Overlook Press.

Smith, J. R. (2003). On special missions: The Luftwaffe's research and experimental squadrons 1923-1945. Hersham, UK: Classic Publications.

Warden, J. A., III. (1989). The air campaign: Planning for combat. Washington, DC: Brassey's.

# Warfare, Comparative

Warfare continues to be a major influence in world history and perhaps one of the most studied topics as well. Unfortunately, most studies focus on modern and Western warfare. However, a new approach has emerged to analyze warfare. The comparative approach, transferred from the field of anthropology, is yielding

insights into the nature and role of warfare in world history. When we compare multiple, similar episodes of warfare in world history, patterns emerge to aid in our understanding of the "how" and even the "why" of modern warfare.

The comparative approach is yielding insights into the role of culture in determining the outcome of conflicts between First World and Third World countries; refutation of technological and cultural determinism (single explanations of complex phenomenon) in warfare; and the process of First World development of arms technology that becomes obsolete in conventional battles, only to be adopted by Third World forces and turned against its developers. It also yields insights into why overwhelmingly superior technology, military forces, and professional leadership do not guarantee victory today unless economic, social, and cultural factors are addressed in peacetime occupations and how sea and air power differ from conventional battlegrounds to guerrilla and insurgent environments.

Standard beliefs and axioms about warfare can be examined and strengthened or challenged using the comparative approach. Gaps in our understanding of the past can also be shaded in.

## Professional versus Unprofessional Forces

The assumption that professional forces with advanced training and military technology will defeat unprofessional and lesser-armed forces has been shown to be inaccurate in world history. Small forces of guerrillas and terrorists have defeated the most advanced technological armies and states repeatedly in world history.

For instance, during World War II the German Nazi leader Adolf Hitler commanded the German Wehrmacht (army) and Luftwaffe (air force) to invade Yugoslavia in 1941. The German forces had just scored stunning victories over France and Western Europe using the Blitzkrieg (lightning war). They were the best-trained, best-equipped, and most successful military force in Europe when they took on the Yugoslav partisans. Yet, by the end of the war, all Yugoslav territory had yet to be

## True War

In his survey of war in preliterate societies, Harry Holbrook Turney-High proposed that true war—as opposed to combat or feuding—has five key elements:

- 1. Tactical operations.
- 2. Definite command and control.
- 3. Ability to conduct a campaign for the reduction of enemy resistance if the first battle fails
- 4. A group motive rather than an individual one.
- 5. Adequate supply.

Source: Turney-High, H. H. (1949). Primitive war: Its practices and concepts. Columbia: University of South Carolina Press.

conquered. High-quality German tanks, troops, command, and weapons proved inadequate in the environment of Yugoslavia.

The experience of United Nations (U.N.) forces in Mogadishu, Somalia, in Africa during the 1990s is another classic example. The inability of rebel forces to stop fighting among each other in parts of East Africa seemed to provide the perfect opportunity for the U.N. forces to enter Africa and utilize special troops and weapons to disarm local warlords and bring peace to the region. Instead, U.N. forces appeared improperly armed and directed for the type of guerrilla combat they encountered. Rebel forces often united against the U.N., whereas the U.N. seemed to splinter at the most inopportune of moments.

In both examples the best professional forces and the best military technology of the time performed poorly in nonconventional environments. Guerrilla and rebel forces, well adapted to their environments, utilized appropriate weapons in such settings. Motivations and goals of the forces on all sides also likely played a role.

# Great Leaders, Invincible Forces, and Decisive Battles

The image of the heroic, genius leader who can direct invincible forces toward decisive victories that alter the course of history is still with us today. Yet, comparative historical evidence does not support this image.

German Field Marshal Erwin Rommel was considered one of the greatest tank commanders of all time. His record was impressive from 1939 to 1943, with great victories during German invasions of France and Benelux (Belgium, the Netherlands, Luxembourg) to start the war and further victories with the Afrika Corps of panzer tanks in North Africa. Yet, he and his invincible Panzer Corps failed to take the Suez Canal in Egypt and eventually lost control of North Africa entirely. Later his "Fortress Europe" fortifications would fall to the Allied invasions on D-Day, 6 June 1944. Eventually he was forced to take poison after being implicated in a plot to kill Hitler.

The French emperor Napoleon Bonaparte was a classic megalomaniac. Genius and defender of the French Revolution, he scored a series of brilliant victories, such as at Austerlitz, with a mixed peasant and professional army. His attempts to establish sea power against the English proved fruitless in his 1798 invasion of Egypt and at Trafalgar, Spain. The sale of the Louisiana Territory to the United States in 1803 and later attempts to reacquire it were followed by larger catastrophes. French revolutionary fervor favored Napoleon throughout Europe, yet he alienated all by placing his own relatives on thrones and enforcing Napoleonic codes and trade across Europe. His invasion of Russia is one of the great military catastrophes of all time, with most of the 500,000-man Grand Armee being killed without losing a major battle. He then lost the Battle of Waterloo in 1814 and died in exile on Elba, off the coast of Italy.

Many famous commanders have had military records that are not so impressive: Hannibal of Carthage, Quetzalcoatl of the Toltecs, Viracocha of the Incas, Pyrrhus of the Greeks, Julius Caesar of Rome, Harsha of India, Ramses II (the Great) of Egypt.

The infantry legions of the Roman republic and empire are perhaps the best example of supposedly invincible forces that won decisive battles. Certainly they won important victories, but they had more impact as engineers and Latinizers of the provinces. Roman sea power and siege warfare were much more impressive than the performance of the legions on the battlefield. Republican Rome's forces suffered defeats to the Italic Celts who

Force, and fraud, are in war the two cardinal virtues. • Thomas Hobbes (1588–1679)

sacked Rome in 390 BCE and to the Carthaginian general Hannibal for ten years in the Punic Wars. The battle at Cannae in Italy is a classic example, with more than thirty thousand Romans killed. Rome was far more successful at sea, converting the Carthaginian navy into a Roman navy by force and buying the Numidian cavalry of Hannibal for the battle at Zama in 202 BCE. Later Roman empire legions were ambushed by German barbarian tribes at Teutonburg Wald in 9 ce. The Parthian cavalry used the "Parthian shot," whereby the Parthian cavalry would break Roman ranks by feigning retreat only to let loose with a volley of long-distance arrows on the disorganized legions. This tactic was used repeatedly to break the legions, once killing the Roman emperor and more than forty thousand of Rome's finest in one afternoon. By the end of Roman power, during the fourth century CE, Roman military forces were struggling to integrate cavalry and legions to hold up the crumbling empire.

Other supposedly invincible forces that did not perform so well include the elephant-equipped armies of classical and medieval India. Hundreds of war elephants led armies as large as 500,000 men. Yet, neither the elephants nor great numbers of men deterred waves of invaders, usually on horse, who swept into India periodically, putting the elephants to flight and capturing thousands of soldiers on a regular basis. India's territory and population sizes proved far more effective than its military forces at slowing and absorbing periodic invasions.

The vaunted Aztecs and their last leader, emperor Montezuma, are another example. Although these warriors, professional soldier clans equipped with weapons of Stone Age technology, fought bravely and well against the Spanish invasion, their record in Mesoamerica (the region of southern North America that was occupied during pre-Columbian times by peoples with shared cultural features) is not so good. Before the Spanish conquest the Aztecs and their emperor failed to subdue a hated rival civilization whose homeland was only miles from the Aztec capital at Tenochtitlan. The Tlaxcallans became faithful allies of the Spanish, providing logistics and ten thousand soldiers whose volley-fire arrow tactics were lethal to the Aztecs. The Aztecs and Montezuma also

failed to secure their western border against the bronzewielding Tarascan civilization. Many Aztec soldiers garrisoned on this border would have been far more useful against the Spanish horse and steel. Although the Aztec had a great military record during previous expansions, the inability of Montezuma to attract allies and present a united territorial front against the Spanish conquistadors from 1519 to 1521 was fatal to his empire.

Great leaders, battles, and forces do exist in world history. The successes of Alexander of Macedon and his forces and of the Mongol conqueror Genghis Khan and his forces are examples. However, numerous great deeds of warfare do not stand up well when compared to others in world history.

### Gaps in History

In world history gaps exist where evidence is not available. The comparative approach can shed light on these gaps when used contextually. Warfare as an ephemeral activity leaves little evidence. Historical records can be supplemented with archaeological evidence to help identify and explain the role of warfare in world history, especially in nonliterate areas. This is the case for pre-Columbian warfare and for warfare in early Eurasia and early Africa.

Written records of Minoan chariots on the island of Crete in the Mediterranean are an interesting case. Minoan civilization (2500–1500 CE) was a seafaring culture that controlled sea trade. Warlike neighbors, such as the Mycenaeans in Greece, the Egyptians and Hyksos to the south, and the Hittites and Mitanni to the east, used chariots as an integral part of warfare. Mycenaean cities such as Tiryns were walled, and we can recall the Greek poet Homer's epics for images of what Bronze Age warfare looked like. Yet, Minoan palatial estates were not walled and had no need of chariots for war on an island protected by Minoan ships. Current thinking suggests that the chariot records were instead representative of elite status (as the number or size of automobiles can be today in industrialized states). This was the case during peacetime for Egyptian nobility. A comparative, contextual approach to warfare in this case yields negative evidence that Minoans used chariots for war.



The size of military forces can be deduced by the comparative approach. The Chanca chiefdom opposed the Inca in South America during early Inca expansion during the fifteenth century CE. The size of the Chanca military force is unknown, but the population of the chiefdom can be derived from calculations of arable (fit for growing crops) land. This estimate can be compared to estimates for similar-sized chiefdoms for which historical records exist recording the size of military forces. Finally, comparative warfare studies can reveal the importance of particular traits to developments in warfare. For instance, the lack of the horse in warfare during pre-Columbian times did not deter the interaction and conflict of nomadic and sedentary cultures. The same nomadic-sedentary warfare patterns seen in the Old World (Eurasia, Africa) are seen in the New World (the Americas), regardless of the presence or absence of the horse.

The relative lack of metal weapons in the Americas (some copper and bronze weapons, mainly in South America, were developed) provides more interesting comparisons. Armies such as those of the Aztecs, Incas, and Cherokee were using Stone Age technology when European forces arrived. This situation provides an excellent example of what Stone Age warfare really looked like in places such as Eurasia and Africa before the coming of metallurgy, the horse, and complex seafaring. The comparative analysis can be carried even further, with hypotheses about the low level of siegecraft technology in the pre-Columbian Americas despite large-scale fortifications. Siegecraft in the Old World became highly developed and played an integral role in all periods of warfare after the Stone Age.

Chris Howell

See also Warfare, Origins of

## **Further Reading**

Archer, C., Ferris, J., Herwig, H., & Travers, T. (2002). World history of warfare. Lincoln: University of Nebraska Press.

Art, R. & Waltz, K. (2003). The use of force: Military power and international politics. New York: Rowman & Littlefield.

Baylis, J., Wirtz, J., Cohen, E., & Gray, C. (2002). Strategy in the contemporary world: Introduction to strategic studies. Oxford, UK: Oxford University Press.

Brown, M., Coat, O., Lynn-Jones, S., & Miller, S. (1998). *Theories of war and peace*. Boston: MIT Press.

Davis, P. (1996). Encyclopedia of invasions and conquests. New York: W. W. Norton.

Ferrill, A. (1985). The origins of war: From the Stone Age to Alexander the Great. London: Thames & Hudson.

Gray, C. (1999). Modern strategy. Oxford, UK: Oxford University Press.Haas, J. (Ed.). (1990). The anthropology of war. Cambridge, UK: Cambridge University Press.

Harkavy, R., & Neuman, S. (2001). Warfare in the Third World. New York: Palgrave Macmillan.

Keegan, J. (1993). A history of warfare. London: Hutchison.

Keeley, L. H. (1996). War before civilization. Oxford, UK: Oxford University Press.

Lynn, J. (2003). Battle: A history of combat and culture. Boulder, CO: Westview Press.

Neiberg, M. S. (2001). Warfare in world history. London: Routledge.Rafeal, E. B. (1979). Social aspects of guerilla and anti-guerilla warfare.Tel Aviv, Israel: Magnes Press.

Reyna, S., & Downs, R. (1994). Studying war: Anthropological perspectives. New York: Taylor & Francis.

# Warfare, Land

Thus, land warfare is particularly important in world history.

We can identify several major forms and patterns of land warfare when surveying world history. These forms and patterns occurred during, chronologically, the Stone Age (which includes the foraging—also called Paleolithic—era and the Neolithic era, c. 100,000 BCE–5000 BCE) and the ancient, classical, medieval, early modern, and modern periods. To some extent, especially for the Americas, Africa, and the Pacific, these chronological designations are artificial but serve the purpose of an organized discussion here.

# Foraging Era (c. 100,000-12,000 BCE)

During the foraging era human groups were nomadic, moving to resources. The major form of land warfare consisted of nomadic bands fighting over land resources such as food, water, or shelter. The only identifiable pattern involved adaptation of hunting weapons and tactics to warfare. Bows, spears, slings, and clubs were combined with reconnaissance, encirclement, stealth, and even retreat. Competition between Cro-Magnon and Neanderthal groups around the Mediterranean is an example. Rock art in Spain and South Africa depicts rival bowhunting groups engaged in conflict. Participants were likely "generalists" who performed many tasks for band survival, including organized conflict. From these simple origins, war developed into a complex set of beliefs, practices, and institutions in most cultures and civilizations in world history.

### Neolithic Era (c. 12.000-5000 BCE)

Human bands settled permanently in a variety of inland and coastal villages across the globe by the end of the last ice age. The major form of warfare changed from simple foraging era skirmishes to Neolithic era pitched battles, sieges, and campaigns, according to evidence from the ancient Near East and Europe. People developed the first war weapons, armor, hierarchical societies, and architectural defenses. Patterns of nomad versus settlement and settlement versus settlement emerged in land warfare. These patterns remained constant in land warfare into the modern period. Village populations filled in arable (fit for growing crops) lands, and flora and fauna were domesticated to feed the increasing populations. Towns such as Catalhuyuk in Turkey and Jericho in Palestine emerged with walls, as did city-states at Ur and Erech in Sumer. Town specialists became potters, weapon makers, farmers, warriors, or leaders, whereas those people who remained nomads domesticated animals and became pastoralists. Cemetery burials in Neolithic Egypt point to death by warfare. Death rates were often moderate, but participation rates were high in sedentary, Neolithic warfare. The concept of militia (temporary service as a warrior on behalf of the group) was the norm. Written descriptions of warfare first emerged in Neolithic Mesopotamia.

In the Americas, Africa, and the Pacific, limited archaeological evidence suggests that similar forms and patterns of land warfare developed along foraging and Neolithic forms of warfare. Permanent settlements led to Neolithic forms, whereas nomadic areas continued foraging forms. For instance, Australian Aboriginal bands continued the foraging era model of land warfare associated with nomads for more than 100,000 years, well into the modern period.

# Ancient Period (c. 5000–1000 BCE)

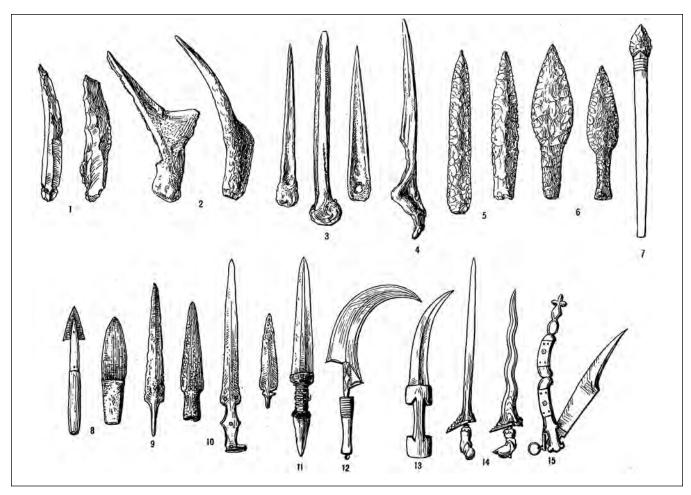
Two major forms of land warfare developed during the ancient period. Large, sedentary civilizations spawned the first infantry armies, whereas migrating, nomadic tribes used mobility in the form of foot and horse warfare, first as chariots and carts, then as cavalry. All of the basics of land warfare—battles, sieges, campaigns, and wars—were in place, and the nomad-settler dynamic drove land warfare advancement until the modern period.

Major technological advancements drove patterns of land warfare during this period: seafaring, metallurgy, animal transport (namely the horse), and long-range weapons (compound bows). Seafaring and the horse changed the nature of war transport and carried chariots and later cavalry to preeminence in open battlefields. Metallurgy of copper and bronze weapons such as daggers, swords, and arrow tips, along with armor and tools, changed lethality rates and even fortification designs. Warfare became expensive, complex, institutionalized, and enculturated as a tool of state and tribal power with the ability to affect economics, social structure, and world history.

Written descriptions of war during this period come from Egypt, China, Europe, India, and Mesopotamia. These descriptions are supported by state and tribal art as well as archaeological evidence, leaving no doubt as to the importance of land warfare in ancient world history. What a cruel thing is war: to separate and destroy families and friends, and mar the purest joys and happiness God has granted us in this world; to fill our hearts with hatred instead of love for our neighbors, and to devastate the fair face of this beautiful world. • ROBERT E. LEE (1807–1870)

Early military leaders such as King Menes in Egypt (3100 BCE) used infantry, watercraft, and siege warfare to unite Stone Age Egypt. Sargon, ruler of Akkadia, did the same in 2400 BCE Mesopotamia, combining his nomadic warfare with Sumerian city-state warfare. The result was an army led by chariots, with composite bow archers and siege engineers protected by spear and ax men in phalanx formation. Not even huge city and territory walls at Ur

could keep Sargon's forces at bay. The arrival of Indo-European-speaking cattle and horse tribes also demonstrated the effectiveness of combined forms of nomadic and sedentary warfare. Ancient sedentary civilizations were overrun and then retooled as combined sedentary and nomadic warfare systems such as New Kingdom Egypt, the Gangetic Hindu states, and Zhou China (1045–256 BCE).



This series of drawings shows the variety of weapons for stabbing used over time and across cultures: (1) Sharpened flint; (2) Sharpened antler prongs; (3) Sharpened animal thigh bones; (4) Sharpened bone and antler; (5) Sharpened and pointed stone; (6) Sharpened and pointed blades; (7) Sharpened blade of stone, glass, or iron set in wood handle; (8) Leaf-shaped blades of stone or metal set in wood handle with hide wrap; (9) Copper blade; (10) Bronze blades; (11) Dagger of copper from Alaska; (12) Curved knife from Africa; (13) Dagger from Iraq; (14) Krises from Malaysia; (15) Hinged dagger from Catalonia, Spain.

## Inca Hand-to-Hand Combat

Bartolome de las Casas (1474-1566), a sixteenthcentury theologian and historian in Mexico, describes Inca warfare in the passage below:

... when they began to fight, at first they used slings with which they were extremely skillful and could shoot an infinite number of stones... as they got closer to each other they fought with lances; finally, they resorted to hand to hand fighting and used knobbed clubs and other weapons...

Source: de las Casas, B. (1941). De las antiguas gentes del Perú, (p.48). In J. Bram, An Analysis of Inca Militarism (p. 55). Seattle: University of Washington Press.

The first seafaring culture, the Minoans on Crete, used trading fleets to dominate more warlike neighbors such as the Mycenaeans of Greece. However, land warfare triumphed in the end with Mycenaeans adopting seafaring pirate techniques and taking advantage of the volcanic eruption of Thera to invade the island of Crete by 1450 BCE. Although seafaring would play significant roles in the siege of Troy (in modern Turkey), as well as in Egyptian New Kingdom expansion under Ramses the Great, land warfare remained preeminent for state power.

The largest battle of the ancient period occurred at Kadesh (in modern Syria) about 1270 BCE. Hittites clashed with Egyptians (led by Ramses the Great), who moved and supplied by sea an army of spearmen and chariots consisting of four divisions and twenty thousand men. The battle began with intelligence and misinformation that gained early Hittite success. Ramses rallied his light chariots, outflanking the heavy Hittite horse carts, and forced a retreat into Kadesh, but Ramses had no siege equipment, and a draw and treaty were the result. Borders were defined and dynastic marriage used to cement the peace.

By 1000 ce civilizations with bronze technologies began to collapse under waves of migrating and warlike nomads who carried iron weapons, rode horses, and often came by sea. In the ancient Near East, the "sea peoples" are the best example, overrunning Mycenaean, Hittite, Egyptian, and Levant (countries bordering the

eastern Mediterranean) areas. Cavalry and iron also showed up in China and India.

## Classical Period (c. 1000 BCE-500 CE)

In response civilizations of the classical period incorporated these advances and took land warfare to great new scales. The major forms and patterns of land warfare were represented by conflicts between enormous empires and the seminomadic groups who opposed them. Combined arms, permanent military forces, large military architecture projects, and the codification of war became the norm. The world's first military state, Assyria, emerged between 900 and 612 BCE with an incredible assemblage of all things warlike, including 100,000-man armies. Yet, Assyria would fall to the largest cavalry-based empire the world had yet seen, the Persians under leaders such as Cyrus the Great. The Persians launched huge land and sea military expeditions to conquer the classical Greeks and India but were rebuffed and themselves conquered by the combined arms of King Alexander of Macedon (d. 323 BCE) on a ten-year expedition. Alexander, in turn, invaded India but got no farther than the Persians.

India developed huge classical armies, replete with war elephants, during the Mauryan (320–180 BCE) and Gupta (320–550 CE) empires. Hindu warrior castes absorbed new warrior bands, and strategic thinkers such as Kautilya aided leaders such as Candragupta in their use. Indian expeditions ventured to southwest and southeast Asia by land and sea. Buddhism emerged in South Asia and spread into Asia proper under Emperor Asoka, who constructed the largest fortifications on the globe. Indian armies also grew as large as 500,000 men, eclipsing even those in China, Persia, and Rome.

Chinese warfare during the Warring States period (475–221 BCE) brought about the development of cross-bows, early gunpowder rockets, and total war. This development led to unusual treatises on war such as *The Art of War* by Sun-tzu during the fifth century BCE. Alliance, defense, and peace were preferred to war. Unification came under Qin Shi Huangdi (c. 259–210 BCE), who began the Great Wall of China, which was completed by

the Confucian Han dynasty (206 BCE–220 CE) to keep out horse nomads such as the Xiongnu. Advanced weapons, well-equipped, paid, trained garrison armies, huge orders of iron weapons and armor, and the constant stress of nomadic horsemen all characterized Chinese classical warfare.

In the Mediterranean area land and sea warfare clashed. Rome, the land power, encountered Carthage, the sea power, in the Punic Wars. Rome used land techniques to capture the Carthage navy intact, whereas Carthage land forces (including war elephants) invaded Italy and were undefeated for ten years under the general Hannibal until Battle of Zama in 202 BCE. Naval battles remained extensions of land warfare, with boarding and ramming the norm, as at Actium in Greece in 31 BCE. Roman power after the Punic Wars centered on both sea power and on infantry legions, especially as engineers. In 390 CE, as power shifted from Rome to Constantinople (modern Istanbul, Turkey) with the rise of Christianity and Attila's Huns, the Roman writer Vegetius wrote De Re Militari (Things Military), a comprehensive planning approach to campaign operations, for Emperor Valentinian II.

In Africa the kingdom of Meroë used an iron industry to fuel its expansion along the Nile River into Egypt by 1000 BCE. Between 50 and 650 CE the Aksum state developed in coastal Ethiopia, controlling trade with military force.

In the Americas the Chavin, Olmec, and Adena-Hopewell cultures emerged by 1000 BCE but displayed more religious than military tendencies. By 500 BCE, however, signs of land warfare appeared at Mesoamerican Olmec and Mayan sites such as Tres Zapotes and El Mirador. Slings, spearthrowers, stone blades, and elite warrior costumes were associated with captive taking and trading. In coastal Peru the classic Moche (0–550 CE) exhibited warrior cults, captive sacrifice, complex arms and armor assemblages, defensive valley walls, and battle art showing conflict with highland cultures. In highland Mexico the city-state of Teotihuacan (100–650 CE) grew to 100,000 people after a volcanic eruption lessened its rival, Cholula. Teotihuacan revolutionized Stone Age warfare in Mesoamerica (the region of southern

North America occupied during pre-Columbian times by peoples with shared cultural features) by emphasizing "star wars." These astronomy-timed wars used volley-fire darts from spearthrowers to eliminate rival dynasties and gain control of other city-states. Teotihuacan controlled even Mayan city-states such as Kaminaljuyu by 500 CE. The influence on Mayan warfare was profound as leaders such as Smoking Frog transformed the role of land warfare and Mayan city-state power. Mayan cities such as Tikal, Calakmul, and Dos Pilas soon adopted the more warlike approach and extended their power as well.

# Medieval Period (c. 500–1500 ce)

Medieval land warfare was similar to that of the ancient world with the nomad-sedentary dynamic, religious motivations, and small professional armies supplemented with mercenaries, conscripts, and militias when needed. Religion influenced war with the rise of Buddhism, Christianity, and Islam in Eurasia and the spread of religious centers such as Tiahuanaco in South America and Cahokia in North America. Buddhism and its warrior monks spread the formerly peaceful religion throughout Asia during the medieval period. Islam was spread by Arabian Peninsula groups, partly by war, during the seventh through tenth centuries CE, whereas Christianity emerged earlier, during the first through fourth centuries CE as the major force in the Roman and Byzantine worlds. Classical empires collapsed into core centers of religion and trade such as Constantinople, Teotihuacan, Tombouktu, Chang'an, Angkor, and Aachen. Because classical-size military forces could no longer be mustered and sustained, small, professional armies were coupled with religiously motivated conscripts in times of war. The Aztec and Arabic expansions, Christian Crusades, and samurai Japan are examples. Although sedentary empires such as the Byzantine, Tang, Wagadu, and Khmer existed in name, in reality nomads built the greatest medieval empires. Nomadic migrations and conquests by the Vandals, Bedouins, Mongols, and Aztecs are notable examples. Great sedentary war leaders such as the Frankish king Charlemagne and his contemporary the caliph of Baghdad (786–809 CE) al-Rashid were more than equaled in deed by nomadic warlords around the globe.

The constant state of flux by the end of the medieval period led to an unprecedented exchange of ideas within major regions. However, land warfare was smaller in scope but more integrated in land and sea operations than during the classical period. Only seafaring advances were needed now to complete the sharing of land warfare beliefs and practices between all regions of the globe.

# Early Modern Period (c. 1500–1900 ce)

Ships such as Chinese junks, Portuguese caravels, Arabic dhows, Spanish galleons, and later English, Dutch, and French merchant-war ships began the final transformation of land warfare before the technological onslaught and mass production of the modern period. Land warfare took the form of combined land and sea operations of European empires that had overcome the Stone Age New World empires of the Incas and Aztecs before turning those resources against the once-mighty medieval empires of Manchu China, Mughal India, and Ottoman Turkey. Patterns of land warfare involved increasing use of gunpowder weapons in the form of firearms, ship cannon, and land artillery, along with a reliance on supremacy at sea as a basis for successful land warfare. No region was better

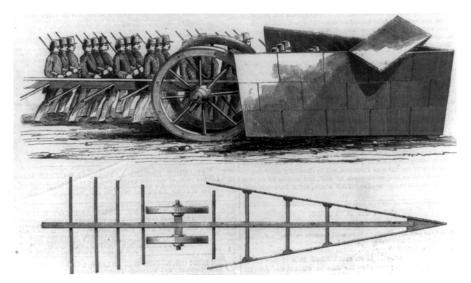
than Europe at handling the successive revolutions of seafaring, gunpowder weapons, global trade, and the industrial age.

Inca and Aztec traders encountered each other and the Spanish, resulting in a showdown between Stone Age and early modern warfare. However, disease, steel, cavalry, gunpowder, and ships proved too much when the Spanish conquistador Hernan Cortes conquered the Aztec empire in Mexico (1521), and the Spanish conquistador Francisco Pizarro conquered the Inca empire in Peru (1535).

The result was the Columbian Exchange, the greatest single episode to ever alter the balance of power in world history. Spanish and Portuguese empires began to dominate global trade in the Indian, Atlantic, and Pacific oceans. Spanish silver became the new global currency, and flora, fauna, and slave labor exchanges between the Americas and the Old World led to wealth that challenged the empires of the Turks, Chinese, and Mughals. Yet, the costs of early modern land warfare for the world's first land and sea global empire proved too great. Despite spectacular victories against the Aztecs and Incas and against the Turks at sea (Lepanto in 1571), Spain went bankrupt four times, losing global preeminence to the Dutch, then French and English empires by 1700. The colonial age had begun with European conquest and colonization of the Americas (1500-1700s), Eurasia (1700–1900s), and Africa (1800s), despite extensive fighting between European powers at home. Land warfare, combined with sea power, proved key in this final shift of global power before the modern period.

## Modern Period (c. 1900–Present)

All major forms of warfare during the modern period are based on technological advances in the distance of



A wrought iron infantry shield developed in the 1860s.



firepower. More advances in warfare technology occurred during the past century and a half than during the rest of world history combined. The Industrial Revolution, Western civilization expansion around the globe, and the integration of regions by advances in sea, air, and land technologies created an unprecedented mixing of land warfare approaches. Interestingly, advanced, settled civilizations had overcome their old nomadic nemesis only to find new threats from within in the form of guerrilla warfare. From biological weapons to rocketry, jets, and nuclear weapons, this rapid rate of change has led to unprecedented access to high-technology weapons by even the smallest of guerrilla and militia groups. Around the globe even minor rebel groups now have access to weapons left over from the wars of the past century and are effectively using such weapons in ways that threaten even the most advanced land warfare civilizations. Wartime technology has also affected peacetime affairs with computers, jet travel, rocketry, radar, sonar, Global Positioning Systems (GPS), and more.

Many firsts in land warfare occurred, including machine guns, biological weapons such as mustard gas in World War I, the engagement of most of the world's armed forces in World War I and World War II, nuclear weapons used on Japan during World War II, the first use of intercontinental missiles and jet bombers—the list is almost endless.

World War II leaders such as Germany's Adolf Hitler, the Soviet Union's Joseph Stalin, Japan's Hirohito, England's Winston Churchill, and U.S. President Franklin Roosevelt created or oversaw the creation of military-industrial states with land warfare production taking precedence above all else, in order to achieve victory. Such wartime activity has led to some of the greatest peacetime economic explosions and debts in world history. The Soviet Union devoted much of its labor and economy to land warfare, but differences with Communist partner China and Cold War competition with the Western world left it bankrupt. Peace treaties and occupations after such great conflicts have been abysmal failures, such as the Treaty of Versailles after World War I, or

spectacular successes, such as the plans to rebuild Europe and Japan after World War II.

Land warfare has remained the key to conflict. The land war between Nazi Germany and Russia in World War II turned with the battles at Stalingrad and Kursk, the latter being the largest tank battle in history. Despite the unprecedented success of D-Day as the largest combined land, sea, and air operation ever, the Russian ground successes changed the tide of World War II. The occupation of lands after wars is just as vital for successful land warfare. Examples include the occupation of Japan and Germany after World War II, Japanese occupation of China between World War I and World War II, and the problems of U.N. forces worldwide to keep peace in regions where total victory on land appears to have been achieved.

Chris Howell

See also Firearms

## **Further Reading**

Archer, C., Ferris, J., Herwig, H., & Travers, T. (2002). World history of warfare. Lincoln: University of Nebraska Press.

Davis, P. (1996). Encyclopedia of invasions and conquests. New York: W. W. Norton.

Ferrill, A. (1985). The origins of war: From the Stone Age to Alexander the Great. London: Thames and Hudson.

Haas, J. (Ed.). (1990). The anthropology of war. Cambridge, UK: Cambridge University Press.

Keegan, J. (1993). A history of warfare. London: Hutchison.

Keeley, L. H. (1996). War before civilization. Oxford, UK: Oxford University Press.

Lynn, J. (2003). Battle: A history of combat and culture. Boulder, CO: Westview Press.

Neiberg, M. S. (2001). Warfare in world history. London: Routledge.

# Warfare, Naval

Some form of naval power has existed since humans built their first cities along the great natural highways of the world, its rivers and seas. Though those highways served to move goods to and from distant markets, they also brought marauders seeking to despoil newborn

civilizations. As those civilizations aged and their populations began to press on the natural boundaries imposed by geography, colonists set forth over the waters eager to establish new homes, to seek new opportunities. Navies accompanied those colonists, sometimes to wrest the new lands from those who already possessed them, often to protect the lines of communication and supply between new settlements and old nations, and always to insure that the colonists did not forget their obligations to their homelands. When colonists forgot the motherland and sought freedom, when existing civilizations collided, or when waterborne freebooters sought quick profit, naval warfare erupted.

#### Sea Power

At the heart of naval warfare is the concept of sea power —the ability to project national policies into the international arena via the sea. Sea power has four distinct purposes. First and foremost, in time of war a nation's navy must defend its homeland and merchant marine (ships transporting nonmilitary cargoes). Though containment of an enemy navy by a blockade may be part of this strategy, coastal defense by small squadrons and fixed shore emplacements as well as convoying merchant ships always feature prominently. Second, offensive action tends to win wars, thus navies attempt to go on the attack at some point during a conflict. Enemy fleets are contained via blockade or, preferably, destroyed by direct engagement. Enterprising officers direct raids against the enemy merchant marine and shore structures. Frequently, amphibious operations (the landing of troops from naval vessels) mark the beginning of an attempt to invade and occupy the enemy heartland. At that point navies provide logistical support for land armies, guaranteeing the supplies necessary to win a final victory ashore.

Third, even during times of relative peace, sea power plays an important role in maintaining civil control. Coast guards discourage smuggling and piracy, while naval forces too often have suppressed—or sometimes supported—domestic insurrections. Finally, whether during peace or war, naval forces often form the core of expeditions of exploration and scientific investigation. While engaged in such activities during peacetime, naval vessels

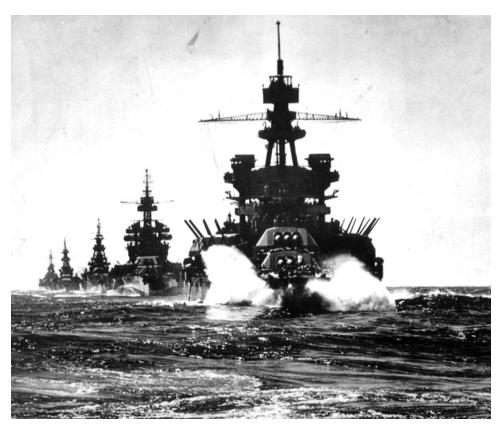
"show the flag" and serve as constant reminders of the potential power of their nation.

Navies have three major components. Most prominent, and constantly changing as technology and tactics dictate, are the ships themselves (including warships, designed to engage an enemy, and auxiliary vessels, built to support the warships). Many types of warships have been built throughout history, but all have been constrained by the attempt to balance firepower, protection, and speed. Invariably, warships have been the most complex machines of any age, and therefore the most costly of machines to design, build, and maintain. Thus cost is an additional constraint on national navies, if not on individual warships.

The second component of navies is the crews that must operate their vessels within an environment always inimical to human life. Sailors must cope with the possibility of drowning in adverse weather far more frequently than they face the threat of naval engagement. Sheer boredom and conflicts within the crowded confines of a naval vessel hold their own danger—that of mutiny. Finally, somewhere between the crowded shipboard community and the highly specialized skills required of a mariner, a maritime subculture inevitably develops in all seafaring societies. It has traditionally included those who make their living from the sea (fisherman, merchant sailors, naval officers and ratings, shipbuilders, etc.) as well as the members of the local infrastructure supported by and supporting those people. Also included could be families with a legacy of service in naval officer corps. The extent of this subculture plays a large part in the potential size and capabilities of any nation's navy. The third critical component of navies is infrastructure. This ranges from the availability of raw materials and the number of shipwrights, artificers, and slips used in ship construction/ maintenance to the bureaucracy that manages the navy in its entirety. The creation of such a complex infrastructure is a slow process, maturing according to the needs of the nation and forced to develop by changing technologies.

#### Navies under Oars

The first record of a naval expedition is an Egyptian relief dating to 2450 BCE. Though each ship featured a large



The USS Pennsylvania, a battleship and three cruisers support an American landing in the Philippines in 1944.

square sail, the vessel's single row of oarsmen propelled it into battle. An Egyptian temple carving of 1190 BCE depicts scenes from a large naval engagement against the Sea People. Archers provided ranged fire, stout bulwarks protected rowers, and spearmen in armor waited to fight their way aboard enemy vessels. The Ugarit Tablet, also dated to 1190 BCE, contains the first written report of a naval battle, fought between the Hittites and the Sea People off Cypress.

Despite the fact that navies arose throughout the Mediterranean, the topic of sea power is typically associated with the rise of the Greek city states because of the efforts of two early historians, Herodotus, writing on the Persian Wars of the 490s and 480s BCE, and Thucydides, who wrote about the Peloponnesian War of 431-404 BCE. The navies described by Herodotus and Thucydides depended on galleys driven by one (unireme), two (bireme), or three (trireme) banks of oars. Also known as longships, these vessels featured high length-to-width ratios, relatively flat bottoms, bronze- or metal-sheathed wooden rams, and masts and sails for cruising. These galleys were extremely fragile and because of their shallow draught lacked holds to carry supplies. They typically operated within easy reach of land, both to shelter them from severe weather and to allow the

crews to beach the vessels at night to forage, to water (the technical term for replenishing a ship's supply of water), and to prepare food. The roundship, of deeper draught, smaller length-to-width ration, and driven by sail and oars, served as the auxiliary vessel of the day. Their larger hulls transported troops and supplies. Roundships were often the critical element of any invasion (for example, the destruction by storm of a Persian support fleet in

492 BCE delayed an invasion of Greece by two years).

Though archery and boarding occurred during battles, the chief tactic of the time appears to have been ramming enemy vessels. Specific maneuvers emerged to support ramming, such as the *periplus* (the extension of the line of battle to flank enemy vessels), the diekplus (an attack in column to shear enemy oars and split the enemy battle line), and the *kyklos* (a circular defensive formation). Greeks also pioneered naval strategy, especially the interdiction of enemy supply lines through raiding or blockades and the naval support of invasions. Over time, other cultures placed their stamps upon the Age of Oars. For example, the Phoenicians developed superb navigational skills, while the Romans made ramming secondary to boarding, turning their superb legions into marines through the use of the corvus (a boarding ramp) and harpax (a machine to fire grapples).

Naval engagements under oars stretched across over four thousand years of recorded history, from the battles of Egyptians and Sea People to the last large fleet action between galleys at Lepanto in 1571 and beyond. Two events sounded the death knell of the oar-driven warship, the venturing of Europeans across the stormy Atlantic and the introduction of cannons. Together, they would usher in a new era in naval warfare.

#### Navies under Sail

The powerful waves of the Atlantic called for a hardier construction than the gentler waters of the Mediterranean. The clinker-built longships of the Vikings served for raiding and eventual exploration and settlement of Iceland and Greenland, but it was the roundship that rapidly came to dominate European navies. Ideally suited for trade with their deep hulls, nations converted these merchant ships to warships in times of conflict by adding a tower at the bow and stern. Soldiers supplemented the normal crew, ready to unleash arrows at the enemy before boarding (at Sluys in 1340, the English sent 250 ships against the French; all but three or four had formerly been merchantmen). Only with the development of the cannon would combat transition from an emphasis on melee to the use of the warship as a fire platform. The roundships stretched longer in relation to their beam, with cannons mounted along their sides to maximize firepower (thus firing "broadsides"). Cannons, mounted on naval carriages that could be drawn inboard for rapid reloading, fired through closeable embrasures cut in the side of the vessel. The resulting shift in tactics was most noticeable during the confrontation between an English fleet relying on firepower and maneuver and a Spanish fleet more dependent on the older boarding techniques. This pivotal campaign of 1588 saw the Spanish Armada driven from the English Channel by a combination of English cannon and adverse weather.

Naval vessels also played the key role in opening the remainder of the world to European hegemony. Beginning in the late 1400s, Portugal's naval vessels rounded Africa and began an exploitation of India and Asia that would be continued by, most notably, Great Britain. In the Western Hemisphere, Spain's arrival in the New World signaled the beginning of naval conflicts that lasted throughout the Age of Sail, as Spain struggled with England, France, and Holland for control of the new rich lands. As the Europeans squabbled among themselves, their American colonies rebelled, and in the process of rebellion found it necessary to rely on converted merchantmen, privateers (privately owned vessels sailing under a government commission known as a letter of marque), and allied naval forces to secure eventual victory.

The Age of Sail reached its apogee during the Napoleonic Wars of 1800-1815. Great Britain alone carried over a thousand vessels on its naval lists manned by more than 140,000 men and officers and supported by the largest naval infrastructure in history. An estimated 20 percent of the adult population of England owed at least part of their livelihood to the British Admiralty by 1812, and the national treasury rapidly depleted supporting that institution despite heavy tax rates and continued income from the largest merchant fleet in the world. The Battle of Trafalgar in 1805 confirmed the ascendancy of Britain's Royal Navy to world dominance (despite a notable challenge by an ill-prepared United States during the War of 1812). That dominance continued for another century, but the coal-fed fires of the Industrial Revolution soon eclipsed the Age of Sail.

### Navies under Steam

Conservative naval hierarchies initially resisted use of the first (and least dependable) steam engines, but by the mid-1800s, the advantages of an unwavering source of propulsion outweighed the disadvantages of dirty decks and space lost to coal bunkers. The Industrial Revolution created a pace of change in propulsion unheralded in earlier ages. In the 1830s steam engines driving side-paddle wheels served as auxiliaries to sails. By the 1860s the navies of the American Civil War (1861-1865) developed ironclad hulls moved by steam-driven propellers. In the 1880s rapid improvement in steam engines allowed sails to drop to an auxiliary form of power. By the Spanish-American War of 1898 and the Russo-Japanese War of 1905, sails had disappeared from new warship classes. As World War I (1914–1918) approached, oil began to replace coal as the producer of steam, and the newest type of naval vessel, the submarine, used electric batteries for subsurface propulsion. Less than fifty years later, nuclear engines powered warships across, and beneath, the waves.

The Industrial Revolution also permitted changes in metallurgy, chemistry, and other sciences, which in turn accelerated change in all other aspects of naval technology. Whereas the ironclads of the American Civil War engaged at ranges of a few hundred yards or less, in 1905



the Japanese opened accurate fire on the Russians at over 5,000 yards. By the 1940s ships engaged at ranges triple those of 1905, and aircraft launched from carriers extended that range to hundreds of miles. By 2000 the use of ship- and air-launched missiles, as well as air-to-air refueling, moved the hypothetical engagement range well beyond 1,000 miles. Faced with ever deadlier weapons, strategies for ship protection were continually revised. At first designers fastened armor to wooden and iron hulls (ironclads). Later, steel hulls incorporated protective belts of armor across vital machinery and magazines, as well as thick turrets for guns. Increasingly after World War I, effective defense became more a matter of specialized weaponry in combination with lighter armor: sonar and depth charges against submarines, fighters to intercept enemy bombers, antimissile missiles and rapid-firing guns to destroy incoming warheads, and electronic countermeasures to baffle guidance systems.

#### The Next Wave

In a world made ever smaller by globalization and overpopulation, it is a near certainty that navies will continue to exist and to change. Warships already feature automated guns, and automated carrier aircraft are under development, while hydrofoils support amphibious landings, and satellites guide ordnance with near perfect accuracy. The next wave of technological developments cannot be accurately predicted. On the other hand, it is a certainty that when international conflict threatens, navies will feature prominently in its resolution.

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See also Maritime History; Piracy

## **Further Reading**

- Casson, L. (1991). The ancient mariners: Seafarers and sea fighters of the Mediterranean in ancient times. Princeton, NJ: Princeton University Press.
- Corbett, J. S. (1911). Some principles of maritime strategy. London: Longmans, Green and Co.
- Friedman, N. (2001). Sea power as strategy: Navies and national interest. Annapolis, MD: Naval Institute Press.
- Gray, C. S. (1992). The leverage of sea power. New York: Free Press.
- Gray, C. S., & Barnett, R. W. (Eds.). (1989). Sea power and strategy. Annapolis, MD: Naval Institute Press.

- Hagan, K. J. (Ed.). (1984). In peace and war: Interpretations of American naval history, 1775–1984. Westport, CT: Greenwood Press.
- Hill, J. R. (Ed.). (1995). The Oxford history of the royal navy. New York: Oxford University Press.
- Keegan, J. (1988). The price of admiralty: The evolution of naval warfare. New York: Penguin Books.
- Kennedy, P. M. (1976). The rise and fall of British naval mastery. New York: Charles Scribner's Sons.
- Mahan, A. T. (1918). The influence of sea power upon history, 1660–1783. Boston: Little, Brown and Company.
- Mahan, A. T. (1991). Mahan on naval strategy: Selections from the writings of rear Admiral Alfred Thayer Mahan. (J. B. Hattendorf, Ed.). Annapolis, MD: Naval Institute Press.
- Rodgers, W. L. (1937). *Greek and Roman naval warfare*. Annapolis, MD: Naval Institute Press.
- Rodgers, W. L. (1939). Naval warfare under oars, 4th to 16th century: A study of strategy, tactics and ship design. Annapolis, MD: Naval Institute Press
- Tarrant, V. E. (1995). Jutland, the German perspective: A new view of the Great Battle, 31 May 1916. Annapolis, MD: Naval Institute Press.
- Wegener, W. (1989). The naval strategy of the world war. Annapolis, MD: Naval Institute Press.

# Warfare, Origins of

Warfare—organized lethal violence practiced among social groupings—is an ancient and virtually universal social phenomenon. The origins of warfare date from early antiquity, thousands of years ago, when warfare became a distinct pattern of social behavior in specific regions of the world. Recent scholarly advances in the disciplines that study the origins of warfare—archaeology, political science, international relations, sociology, epigraphy, ethnology, and military history—continue to improve upon our current understanding of this complex puzzle.

This essay provides a survey of present-day knowledge on warfare origins; it covers basic methodology and the main known facts, including both Old World and New World origins of warfare. Its focus is on the origins of warfare based on extant empirical evidence.

## **Original Belligerents**

The earliest warfare emerged among chiefdoms in prestate societies. Chiefdoms may have occasionally clashed

## Selections from the Writings of Confucianists and Neo-Confucianists on War

In his punitive expedition, Tang began with Ge. With this, he gained the trust of the Empire, ... so when he marched to the south, the northern barbarians complained, "Why does he not come to us first?" The people longed for his coming as they longed for a rainbow in time of severe drought. Those who were going to market did not stop; those who were plowing went on plowing. He only punished the evil rulers and brought security to the people, like the fall of timely rain, and the people rejoiced greatly in his coming. (Mencius 1B.11)

There are people who say, "I am expert at military formations; I am expert at waging war." This is a grave crime. If the ruler of a state is drawn to humanity, he will have no match in the Empire. Thus, "When he marched to the south, the northern barbarians complained; when he marched to the east, the western

barbarians complained. They all said, 'Why does he not come to us first?""

When King Wu marched on Yin, he had three hundred war chariots and three thousand brave warriors. He said, "Do not be afraid, I come to bring you peace, not to wage war on the people." Then, the sound of people knocking their heads on the ground—to show gratitude and respect—was like the collapse of a mountain. To wage a punitive war is to rectify. There is no one who does not wish himself to be rectified. What, then, is the need for war? (Mencius 7B.4)

The humane man indeed loves others: because he loves others, he hates to see men bring harm to them. The righteous man acts on his sense of appropriateness, and so he hates to see men commit terrible wrongs. He takes up arms only in order to put an end to violence and harm, not in order to contend with others for spoils. Therefore, where the troops of a humane ruler are

over resources like good land, but unlike states, most chiefdoms did not have the manpower or political structure to conquer and hold onto others' lands. They may therefore have contented themselves with burning a rival village, destroying its temple or Men's House, killing its chief, then returning home to torture or sacrifice a few prisoners.

Thus, chiefly warfare among pre-state societies already contains many of the later characteristics (political motives, incipient warrior classes, specialized weapons, basic military engineering) that warfare will develop and enhance with increased political complexity. Prior to chiefly warfare, belligerents manifested only an archaic form of warfare that was not distinguishable from basic homicidal and hunting skills (coordinated killing of other humans).

### Indicators of the **Earliest Warfare**

Measurement of warfare origins is based on several indicators or multiple lines of evidence, an indispensable redundant strategy because unfortunately all indicators do not have the same survivability in the extant record. Moats and defensive walls—powerful indicators of warfare—have a much higher survival probability than painted murals, fragile scrolls, or wooden spears that may tell of equally significant warfare. Moreover, other features of warfare—for instance, perishable weapons, troop movements, battle actions, and others—are archaeologically invisible. This survey is based on six standard indicators for detecting the emergence of warfare for a given region in a given period: forensic, locational, structural, artifactual, iconographic, and epigraphic.

#### FORENSIC

Forensic evidence of warfare is contained in human skeletal remains, including but not exclusively violent traumatic wounds. Embedded projectile points, parry fractures, perforated or fractured skulls, decapitated or dismembered skeletons, and other similarly deadly lesions imparted by force constitute forensic evidence that may indicate the presence of warfare, particularly when such remains are present in large numbers in a small area (high density of skeletal trauma) having some military significance. Forensic evidence must be used with caution because alternative explanations for its presence—for encamped, they too command respect, and where they pass, they transform the people. Their arrival is like the timely rains in which all men rejoice. . . . The [sagely] four emperors and two kings all marched through the Empire with their troops guided by humanity and appropriateness, The people close-by were won over by their goodness, and those afar were filled with longing for their excellence. Their swords were not bloodstained, yet people near and far submitted willingly. Their excellence flourished in the center of the realm and spread out to the four quarters. This is what the *Odes* means when it says:

The good man, the noble gentleman,
In demeanor and conduct, he is without fault;
In demeanor and conduct, he is without fault;
He rectifies the states that fill the four quarters.

(Xunxi, ch.15)

example, religious sacrificial practices unrelated to warfare, or cannibalism without actual warfare—may also account for the extant forensic evidence. Where forensic evidence potentially indicative of warfare is found, it is therefore essential to also have an understanding of the other social practices.

Unfortunately, the most compelling osteological evidence of warfare emerges well after warfare originated. Skeletal remains of warriors buried with artifactual evidence of warfare—for example, weapons or armor—also prove the existence of warfare. An early Old World example is the royal cemetery of Ur (Tell al Muqayyar) in Lower Mesopotamia, Iraq, which contained weapons buried with their warrior owners (now in the British Museum, London; the University Museum of the University of Pennsylvania, Philadelphia; and the Iraq Museum, Baghdad).

#### LOCATIONAL

Locational evidence of warfare refers to the defensible position of a given site in a surrounding physical environment. High ridges, sloping terrains, islands, or peninsulas provide locations that may constitute evidence indicative of warfare. This is often among the oldest, because it may not require much technology (a community's decision to locate on a defensible site still requires collective-action problem-solving). As some historians have pointed out, however, locational evidence is a weak or often ambiguous indicator of warfare, because an arguably defensible location may have been chosen on grounds other than the threat of conflict—for example, for its religious significance, trade or communication links, access to natural resources, or other nonmilitary advantage.

However, while locational evidence at an individual isolated site is generally not a sufficient indicator of warfare, a regional widespread pattern of several defensible locations may be. And locational evidence (for instance, a hilltop) often combines with structural evidence (like enclosing walls, even without a parapet) to indicate warfare (for instance, in Quebec, Canada; Habuba Kabira, Iraq; and Monte Albán, Mexico).

#### STRUCTURAL

Structural evidence, in the form of purposively planned and executed military engineering works, constitutes hard evidence of warfare (sufficient conditions for the existence of at least a threat of warfare) and is also a common indicator of significant social complexity. Structural works involve a significant level of planning and execution, involving a nontrivial proportion of able labor in the community. The polity responsible for military works will often have reached state-level complexity (with internally differentiated institutions, specialized elites, and other stable features that go beyond the mere centralization of power [chiefdom]). Chiefdoms can achieve some of these engineering goals (like moats and palisades) but not all of them (more extensive or territorial wall systems).

Structural evidence of warfare is also diverse. A *palisade* is an early form of fortification, erected around the perimeter of a local polity (for example, Palisade I in Cahokia, Illinois). Palisades often include baffled gates for controlled entry (for instance, Banpo [Pan-p'o], China) and sometimes they represent just the first stage

of what will eventually become a more formidable wall that can include bastions as well (Palisades II-IV in Cahokia, Illinois). A palisade is erected primarily for purposes of exclusion and protection against limitedrange projectiles.

A wall—built of stones, bricks, stamped-earth, or plastered stockade—is a more substantial fortification than a palisade and sometimes also marks the transition from chiefdom to statehood, because of the greater specialization, resources, and coordination required. In Palestine, the earliest defensive walls were built of stone, at Jericho, during the so-called Pre-Pottery Neolithic A (PPNA) period, sometime in the eighth millennium BCE, or soon after 8000 BCE. In China, on the other hand, the earliest massive walls indicative of warfare were built with a layered, stamped-earth construction technology during the Longshan (Lung-shan) period, East Henan phase, in the third millennium BCE. A wall with parapet—a vertical structure to protect defenders—is an unambiguous indicator of warfare, but without a parapet a wall may simply have other functions, such as social separation, privacy, or

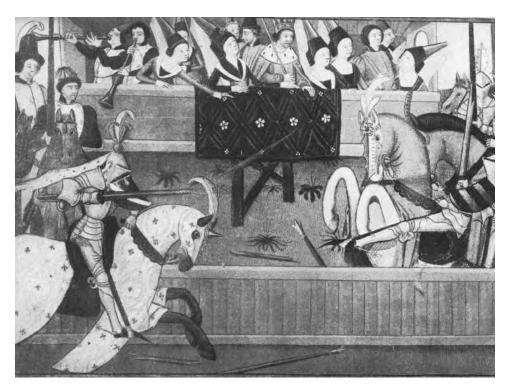
traffic control. However, some walled sites that contain other evidence of warfare (for instance, weapons deposited on the immediate outside proximity) lack parapets, so a parapet can be interpreted as a sufficient but not necessary condition for warfare.

A tower can be another form of fortification. Most commonly, towers are integrated with walls, as in a castle, and are sometimes located in frontier regions (Perú) or as part of a more extensive wall

> Knights jousting in France in the late fifteenth century.

system (the famous Great Wall of China built during the Zhou and Qin dynasties, for instance, or Hadrian's Wall between Northumberland and Scotland, which is far more modern). In somewhat later times—during the later development of ancient warfare—wooden towers and other protected structures became mobile siege engines and were used to encase and carry other largescale specialized weapons (for instance, battering-rams and catapults) and assault troops for attacking a fortified site (for instance, the siege of Lachish, Nineveh [now in the British Museum]). There is no evidence for the existence of siege engines in the New World, although most components (beams, ropes, and walls) would have been highly perishable.

Besides walls and towers, other military structures occur individually or in combination, depending on local needs and capabilities. A moat is a deep and wide excavated trench, usually filled with water, most frequently located outside a fortified perimeter. Like walls and towers, moats were built both in the Old World (for instance, at Tell es-Sawwan, Iraq, and Banpo, China) and in the



True contentment depends not upon what we have; a tub was large enough for Diogenes, but a world was too little for Alexander. • Charles Caleb Colton (1780–1832)

New World (for instance, at Becán, Mexico). Moats—more specifically, the layers of sedimentary deposits found in a moat—also often contain additional evidence of ancient warfare (artifactual or forensic). A *rampart* is a broad embankment or artificial ridge raised as fortification. It is sometimes, as in Becán, Mexico, surrounded by a moat, with bridges across to control access. A *baffled gate* is a protected or concealed entry, the purpose of which is to control access through a flow point. Finally, a *guard house* is often part of a baffled gate, or may occur separately.

Originally most of these structures occurred individually, consistent with a chiefdom-level of political development. However, as warfare developed in later times, as state-level political complexity emerged, many of these structures occurred jointly—as in a walled city with baffled and guarded gates and moated ramparts, fortified with protruding towers and parapets designed to provide overlapping fields of fire against attackers. An impressive New World example of a fortified site with towers that offered overlapping fields of fire against attacking infantry is in Cahokia, Illinois. Ruling out a long siege or some covert infiltration, such a site could only be successfully taken with large-scale assault engines that offered protection to assault groups, such as towering and mobile battering-rams or catapults.

#### ARTIFACTUAL

The primary form of artifactual evidence for ancient warfare consists of weapons. Two types can be distinguished: *specialized* (used for combat only) and *generic* (also used for hunting). The mace is arguably the oldest specialized weapon, having been developed for the primary purpose of causing a lethal cranial injury. Maces are found in the earliest iconography of ancient warfare throughout the ancient Near East (for example, Narmer Palette and the Hierakonpolis murals in Egypt; the Stela of Vultures in Iraq; and the stelae of Ugarit, Syria). Other specialized weapons include axes and swords, as well as protective bodily gear, such as helmets, shields, and body armor. Siege engines and other machines built by the first military engineers (battering rams, assault towers, and

mobile catapults) are large-scale artifacts. The chariot played a notorious role in ancient warfare, although much more so during the subsequent development of war than during its origins.

Generic weapons, first developed for hunting, include projectiles, bows, spears, bifaces, atlatls, slings, and knives. Although each of these weapons was used for hunting animals during the foraging (Paleolithic) and Mesolithic era and, therefore, appeared in the archaeological record prior to the emergence of ancient warfare, these weapons were also commonly used in warfare. Some generic weapons disappeared soon after the appearance of specialized weapons (for instance, the sword replaced cruder forms of knives and bifaces), whereas others continued to be used for thousands of years after the appearance of specialized weapons (like the spear and the bow and arrow).

Another common distinction, between short-range and long-range weapons, misses the sociopolitical dimension that is captured by the specialized/generic distinction. Short-range weapons can be specialized (for instance, a mace) or generic (like a knife), as can long-range weapons. In state-level societies the production of weapons for use in warfare was specialized and kept separate from the production of other artifacts, a pattern consistent with the more specialized and differentiated nature of institutions and elites.

#### ICONOGRAPHIC

Iconographic or pictorial representations of ancient warfare are another source of evidence. The most frequent occurrences of battle scenes are in murals and in stone, and include warriors with weapons engaged in combat (for instance, stone bas-reliefs of fortified cities under siege in the Near East), or domination scenes of conquest in a postwar context (for example, Maya stelae depicting a ruler standing on top of defeated enemies or Egyptian palettes representing the Pharaoh smiting the vanquished). Some of the earliest rock art in European foraging era caves, particularly in Spain, is also of this form, although the scenes depicted sometimes include hunting as well as warfare. At present the earliest depictions of battle scenes, skirmishes and hand-to-hand

# The Biblical Rules of Engagement, Deuteronomy 20 (KJV)

- 1 When thou goest out to battle against thine enemies, and seest horses, and chariots, and a people more than thou, be not afraid of them: for the LORD thy God is with thee, which brought thee up out of the land of Egypt.
- 2 And it shall be, when ye are come nigh unto the battle, that the priest shall approach and speak unto the people,
- 3 And shall say unto them, Hear, O Israel, ye approach this day unto battle against your enemies: let not your hearts faint, fear not, and do not tremble, neither be ye terrified because of them;
- 4 For the LORD your God is he that goeth with you, to fight for you against your enemies, to save you.
- 5 And the officers shall speak unto the people, saying, What man is there that hath built a new house, and hath not dedicated it? let him go and return to his house, lest he die in the battle, and another man dedicate it.

- 6 And what man is he that hath planted a vineyard, and hath not yet eaten of it? let him also go and return unto his house, lest he die in the battle, and another man eat of it.
- 7 And what man is there that hath betrothed a wife, and hath not taken her? let him go and return unto his house, lest he die in the battle, and another man take her.
- 8 And the officers shall speak further unto the people, and they shall say, What man is there that is fearful and fainthearted? let him go and return unto his house, lest his brethren's heart faint as well as his heart.
- 9 And it shall be, when the officers have made an end of speaking unto the people, that they shall make captains of the armies to lead the people.
- 10 When thou comest nigh unto a city to fight against it, then proclaim peace unto it.
- 11 And it shall be, if it make thee answer of peace, and open unto thee, then it shall be, that all the peo-

combat are those found in the Arnhem Land region, Northern Territory, Australia, dated at ca. 8000 BCE. Iconographic evidence sometimes appears simultaneously with epigraphic evidence in the same record (for instance, in the Stela of Vultures, Girsu [Telloh], Iraq; or in Monument 3, San José Mogote, Oaxaca, Mexico).

The iconography of early warfare is abundant for both the Old World and the New World. It also developed considerable artistic quality (from sketchy engraved art to rich colorful murals) as part-time artisans became full-time artists in the transition from relatively simpler (chiefdom) to more complex (state) societies. Many artistic masterpieces of antiquity consist of iconographic representations of warfare. Along with their aesthetic value, they also provide valuable information for scientific research.

#### **EPIGRAPHIC**

Evidence of warfare also comes from written records. Until recently, the presence of written records marked the beginning of truly "historical" warfare. Today, however, most scholars agree that the origins of warfare are earlier than the appearance of written records. Moreover, because written records can be unreliable (for instance, the boastful claims of Mesopotamian kings or the doubtful exaggerations of Maya rulers), some prehistoric data based on, say, fortifications, are more reliable and more valid indicators of warfare. Thus, "more recent" or "more historical" does not necessarily mean "more reliable" or "more valid." Nonetheless, in general, epigraphic records are the most detailed and useful sources for constructing precise data sets of past wars, particularly when they are validated by other alternative indicators, such as forensic, structural, or iconographic lines of evidence.

## Old World Origins

Our present knowledge about the precise origins and early development of warfare in the various regions of the ancient world is still incomplete. However, a tentative pattern is beginning to emerge, a pattern which is different ple that is found therein shall be tributaries unto thee, and they shall serve thee.

12 And if it will make no peace with thee, but will make war against thee, then thou shalt besiege it:

13 And when the LORD thy God hath delivered it into thine hands, thou shalt smite every male thereof with the edge of the sword:

14 But the women, and the little ones, and the cattle, and all that is in the city, even all the spoil thereof, shalt thou take unto thyself; and thou shalt eat the spoil of thine enemies, which the LORD thy God hath given thee.

15 Thus shalt thou do unto all the cities which are very far off from thee, which are not of the cities of these nations.

16 But of the cities of these people, which the LORD thy God doth give thee for an inheritance, thou shalt save alive nothing that breatheth:

17 But thou shalt utterly destroy them; namely, the Hittites, and the Amorites, the Canaanites, and the Perizzites, the Hivites, and the Jebusites; as the LORD thy God hath commanded thee:

18 That they teach you not to do after all their abominations, which they have done unto their gods; so should ye sin against the LORD your God.

19 When thou shalt besiege a city a long time, in making war against it to take it, thou shalt not destroy the trees thereof by forcing an axe against them: for thou mayest eat of them, and thou shalt not cut them down (for the tree of the field is man's life) to employ them in the siege:

20 Only the trees which thou knowest that they be not trees for meat, thou shalt destroy and cut them down; and thou shalt build bulwarks against the city that maketh war with thee, until it be subdued.

and far more precise than that which was imagined even just a few years ago.

#### LEVANTINE

The earliest plausible evidence of warfare in the Levant arguably the oldest in the world—comes from Natufian human remains, at ca. 10,000 to 7500 BCE, from Nahal Oren, Israel, which were quite possibly cannibalized. Cannibalism often accompanied warfare in all six regions of the Old World and the New World. Soon after this, during the Pre-Pottery Neolithic A period, at ca. 7500 BCE, the first fortifications were erected at Jericho, Palestine, including the oldest known massive walls and a tower. Other key centers followed soon after Jericho, including Beidah, Jordan, and Haçilar, Turkey. Simultaneously, Ugarit and Byblos on the Mediterranean coast are settled on high defensible locations, and mace heads begin to appear in Jordan, followed by stocks of sling pellets at the Mersin fort in southern Turkey. By the sixth millennium BCE numerous fortifications already exist in the eastern Levant and northern Mesopotamia, by which time these regions form one large "Crescent system." Warfare is fully developed in the Levant by at least 4300 BCE, based on the garrison at Mersin fort and other centers. By ca. 2000 BCE the Ugaritic text of the epic of Baal is completely fluent in the language of warfare.

#### MESOPOTAMIAN

In the area of Mesopotamia warfare appears first in the northern part of the Tigris-Euphrates Valley, with mace heads already present at Jarmo by 7000 to 6000 BCE, which is somewhat earlier than the earliest maces in the nearby Levant region at 'Ain Ghazal, Jordan. Locational evidence at ca. 6000 BCE also shows Tell es-Sawwan being built on a cliff over the Tigris River, and soon after, at ca. 5600 BCE, being fortified with a system of moat, wall, and baffled entrances. In the southern part of Mesopotamia, the first 'Ubaid-period agricultural settlements, starting at ca. 5500 BCE, are being defensively located on islands—arguably the only defensible locations in the southern



alluvial plain—and mace heads are also already common throughout the area (for instance, at Abu 'Ilba, Iraq). During the Uruk period, from ca. 4000 BCE the most important cities in Mesopotamia are fortified, including many in the periphery, at which time cylinder seals also begin to display a clear array of warfare scenes, including prisoners of war being smitten by their captors. Warfare is already fully developed well before the rise of the first Sumerian city-state system that followed soon after ca. 3000 BCE. By the time writing is invented in Mesopotamia, it is ready to record the continuation of stately warfare (Sumerian) and, not much later, the first imperial warfare (Akkadian).

#### CHINESE

In the Chinese protobellic area of the Yellow River, in the northern part of the country known as the Central Plains, warfare is first evidenced soon after ca. 5000 BCE by locational (higher elevations) and structural (moats, palisades, baffled gates) indicators at Banpo (possibly) and Jiangzhai (certainly). Clearly, these early chiefdoms must have been seeking security from some neighboring or outside aggressors, although their identity remains unknown (not unlike the first fortified chiefdom sites in West Asia and the New World). This first stage in the rise of warfare in China occurred during or soon after the first successful settlements were established (in the Yangshao village chiefdoms), similar to the 'Ubaid settlements in southern Mesopotamia. Later (Longshan chiefdoms in the Central Plains region), starting at ca. 3000 BCE, plenty of structural (massive walls) and artifactual (first weapons) evidence exists with increasing frequency, followed by further increases in the period that saw the rise of the first states during the Bronze Age and the Three Dynasties. In China, as elsewhere in the world, warfare is fully developed before the time the first states form and begin to interact.

## **New World Origins**

The first evidence of warfare in the Andean region occurs along the Peruvian coast during the Late Preceramic Period, through mutilated human remains and weapons at Asia (ca. 3000 BCE) and an assemblage of locational, structural, and artifactual evidence at the Ostra site (aka. Salinas de Santa, ca. 3500 BCE).

#### Andean

The early nature of these first indications of Andean warfare at Asia and Ostra during this early stage of political development is reminiscent of the similarly isolated cases of Jericho or Çatal Hüyük in the Levantine system. Unequivocal indicators of warfare begin occuring consistently about two thousand years later. Although written records never appeared in this region, by ca. 2000 to 1500 BCE the iconography of armed warriors and captives at Cerro Sechín (Casma Valley) and elsewhere leaves no doubt that warfare has emerged from its protobellic stage and is entering a more developed stage. Warfare is fully developed in this region with the appearance of numerous hilltop fortifications during the Early Horizon Period, a pattern that continues and reaches maturity by the time of Chavín de Huantar's supremacy, ca. 500 to 250 BCE, by which time complex chiefdoms—perhaps states—had formed. Thus, the Inca imperial warfare that followed much later had been preceded by chiefly and stately warfare thousands of years earlier.

#### OLMEC

At the main Olmec political centers of San Lorenzo, founded on high defensible ground ca. 1400 BCE, and La Venta near the coast of the Gulf of Mexico, there is some plausible locational and iconographic evidence of warfare (helmets, clubs, knuckle-dusters, and blade axes depicted on stone), as well as generic weapons. However, Olmec iconography is arguably ambiguous as evidence of warfare. For example, helmets could have simply been head-dresses and the association of the ballgame depictions with warfare is not a direct one. The earliest large political center that attained at least the chiefdom level of development, San Lorenzo, contains locational evidence as well as structural and forensic remains that some scholars interpret as valid indicators of warfare.

Figurines and statues of ballplayers may provide some evidence, because elsewhere in Mesoamerica the ball game

was associated with warfare, albeit at a later time. What was once thought to be the violent and systematic destruction of San Lorenzo ca. 950 BCE, which could have been the first concretely dated occurrence of warfare for this area of Mesoamerica, is no longer viewed with such certainty. Warfare at the subsequent Olmec polity of La Venta, on the other hand, is not debated, given the numerous iconographic indicators present after ca. 900 BCE (depictions of warriors, weapons, armor, captives, and others).

#### ZAPOTEC

Using locational evidence alone, the origins of warfare in the Oaxaca Valley could date back to the founding of San José Mogote on high ground overlooking the Atoyac River during the egalitarian (pre-chiefdom) political stage of the Tierras Largas phase, ca. 1400 BCE. However, high ground may have been chosen to avoid flooding by the nearby river, not necessarily as a defensible location. Soon after, at ca. 1100 BCE, another community was founded in the northern area of the Etla subvalley, called Huitzo, which means "military lookout" in Zapotec. By the Rosario phase, 700 to 500 BCE, warfare is already clearly shown by the defensible position and fortification of many communities in the Etla subvalley, by weapons buried with chiefs, and by the iconography showing nude prisoners and war captives. For example, over three hundred prisoners were set up in a gallery just before state formation at the regional capital of Monte Albán.

This pattern of increasing sociopolitical complexity continues to evolve until warfare reaches an imperial (albeit brief) stage during the period of the Monte Albán state, arguably the first state in Mesoamerica. Again, as in the Inca case, the warfare that the Spaniards encountered in Mesoamerica in the 1500s CE was the result of a protobellic process that had begun thousands of years earlier, at a chiefly stage of political development.

## **Unprecedented Lethality**

The causal mechanism that accounts for the origin of warfare in antiquity is based on the specialization, growth, and refinement of a set of background behavioral skills acquired by humans during the Paleolithic period: homicidal skills on how to kill other humans and hunting skills on how to coordinate a group for killing animals. Each of these primitive activities produced a set of transmittable skills, including homicidal know-how and the know-how necessary for successful group hunting (for example, intelligence, stealth, and concealment).

The negligible level of political organization that existed during the foraging and early Neolithic eras explains why at most only protowarfare was produced by these nonspecialized skills. Protowarfare was essentially indistinguishable from humans-hunting-humans, leaving behind only ambiguous forensic and locational indicators (like projectile points embedded in skeletal remains, cannibalism, and plausibly defensible locations) and no other evidence of warfare (that is, no defensive structures or specialized weapons, and certainly no writing).

The chiefdom, the state, and eventually the empire acted as catalysts, reinforcing and magnifying the initial background conditions through a complex interactive process. Warfare and political development were mutually reinforcing processes, as in a feedback loop, because warfare can produce conditions favorable for political development (for instance, a perceived group emergency condition, a centralization of power, or a need for compliance with authority) and political development can increase the probability of success in waging war. The state did not produce war, but it did enhance it with unprecedented organization and lethality.

The investigation of ancient warfare and early political development may hold the key to enduring and challenging puzzles in social science and contemporary world politics.

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See also Warfare, Comparative

## **Further Reading**

Cioffi-Revilla, C. (2000). Ancient warfare: Origins and systems. In M. I. Midlarsky (Ed.), *Handbook of war studies II* (pp. 59–89). Ann Arbor: University of Michigan Press.

Cioffi-Revilla, C., & Lai, D. (1995). War and politics in ancient China, 2700–722 B.C. *Journal of Conflict Resolution*, 39, 467–94.

Earle, T. (1997). How chiefs come to power. Stanford, CA: Stanford University Press.

Emerson, T. E., & Lewis, R. B. (1990). Cahokia and the hinterlands. Urbana: University of Illinois Press.

Ferrill, A. (1997). The origins of war (Rev. ed.). Boulder, CO: Westview

Haas, J., Pozorski, S., & Pozorski, T. (Eds.). (1987). The origins and development of the Andean state. Cambridge, UK: Cambridge University

Hassig, R. (1992). War and society in ancient Mesoamerica. Berkeley: University of California Press.

Keeley, L. H. (1996). War before civilizaton. Oxford, UK: Oxford University Press.

LeBlanc, S., & Register, K. E. (2003). Constant battles: The myth of the peaceful, noble savage. New York: St. Martin's Press.

Liu, L. (2003). State formation in early China. London: Duckworth.

Liverani, M. (1988). Antico Oriente. Rome: Editori Laterza.

Marcus, J. (1992). Dynamic cycles of Mesoamerican states. National Geographic Research and Exploration, 8, 392-411.

Marcus, J., & Flannery, K. V. (1996). Zapotec civilization. London: Thames & Hudson.

Moselev, M. E. (2001). The Incas and their ancestors (Rev. ed.). London: Thames & Hudson.

Roper, M. K. (1975). Evidence of warfare in the Near East from 10,000– 4,300 B.C. In M. A. Nettleship, R. D. Givens, & A. Nettleship (Eds.), War, its causes and correlates. The Hague, Netherlands: Mouton.

Rothman, M. (Ed.). (1999). Mesopotamia in the era of state formation. Santa Fe, NM: School of American Research Press.

Stein, G., & Rothman, M. S. (1994). Chiefdoms and early states in the Near East. Madison, WI: Prehistory Press.

Underhill, A. (1989). Warfare during the Chinese Neolithic period. In D. C. Tkaczuk & B. C. Vivian (Eds.), Cultures in conflict. Proceedings of the twentieth annual Chacmool conference. Calgary, Alberta, Canada.

Vencl, S. (1984). War and warfare in archaeology. Journal of Anthropological Archaeology, 3, 116-132.

Yadin, Y. (1963). The art of warfare in Biblical lands. New York: McGraw-Hill.

# **Warsaw Pact**

The Warsaw Pact, officially known as the "Treaty of ▲ Friendship, Co-Operation, and Mutual Assistance" among the seven socialist states of post-World War II Europe (Poland, Hungary, Czechoslovakia, Romania, Bulgaria, Albania, and the Soviet Union), was the Soviet Union's most significant multinational military alliance from 1955 until its collapse in 1991. As the Red Army (later called the "Soviet Army") swept through the eastern part of Europe at the end of World War II it incorporated more than half a million troops from east European countries into its forces. By 1949, by which time the Cold War between the Soviet Union and the United States was already well established, the Soviets had concluded bilateral military alliances with each of these east European countries, all of which were by then Communist. The alliances permitted 1 million Soviet troops to remain in the region and subordinated the armed forces of the satellite countries to Soviet military authorities. During the early 1950s the European allies of the United States, seeking to find a way to defend themselves against a possible Soviet attack, decided that they would have to rearm the recently defeated Germany, that is, the newly created Federal Republic of Germany (West Germany). In 1954, after an effort to create a completely European military force failed, the United States joined fifteen other countries to create the North Atlantic Treaty Organization. To counter this alliance, on 1 May 1955, the Soviets created the Warsaw Treaty Organization (WTO), which is often referred to as the Warsaw Pact, transforming the formerly bilateral alliances into an international organization.

The members of the Warsaw Pact claimed that it was formed in the postwar spirit of creating effective international organizations. In fact, the Soviets made no effort to create a truly cooperative, multinational force. They dealt with their allies primarily in the old bilateral forms, thus inhibiting the possibility of the east Europeans allying among themselves on sensitive issues. While the Soviets devised strategy and designated their own troops as the primary combat units, the east European militaries managed the war games, mobilized forces, or acted as Soviet proxies in furnishing Third World countries with arms. The fundamental strategic plan of the Warsaw Pact, that is, of the Soviet Union, was to achieve a quick victory over NATO forces after any attack. In fact, documents recovered after the collapse of the German Democratic Republic (East Germany) suggest that few people outside of a narrow elite were aware of the details of NATO's defense in depth, rendering the Warsaw Pact's strategic plan doubtful at best.

The most serious crises that the pact confronted were the Hungarian Revolution, the Prague Spring, and the Solidarity movement: In 1956, when a serious revolt broke

Gutta cavat lapidem. [Dripping water hollows out a stone.] • OVID (43 BCE-17 CE)

out in Hungary, the Soviets, without consulting their allies, crushed it with 200,000 troops. In 1968, when the Czechoslovak government introduced reforms such as greater freedom of the press, the Soviets reacted by occupying Czechoslovakia with Warsaw Pact forces consisting of twenty-three Soviet divisions supplemented by five east European divisions and a small group from Bulgaria. This preponderance of Soviet forces clearly demonstrated the actual position of the east European allies in the organization, as well as the coercive nature of Communist rule in general. In 1981, the Soviets were spared the difficult choice of whether to use WTO forces to invade Poland, where the Solidarity movement was challenging the government, when the Polish leadership itself imposed martial law. These three crises, especially the last two, led to increasing disillusionment among the east European allies. The Romanians did not send any troops to help put down the Prague Spring in 1968 and shortly thereafter insisted that Soviet troops leave their country. Albania, which had already become inactive, completely withdrew in 1968 also. During the 1980s, meetings of the Political Consultative Committee, allegedly the highest organ of the WTO, often provided the increasingly restive east European allies a forum for voicing their views.

In 1989 the sudden and unexpected collapse of Communism in all the Warsaw Pact countries except the Soviet Union quickly made the pact obsolete. When East Germany joined the Federal Republic of Germany, the futility of maintaining the WTO became manifest. On 1 July 1991, Vaclav Havel, president of Czechoslovakia, declared the Warsaw Treaty Organization dissolved. The fact that Havel was a former dissident lent a peculiar irony to the end of this not particularly effective alliance.

Gale Stokes

See also Eastern Europe; Russian-Soviet Empire

#### **Further Reading**

Gati, C. (1990). The bloc that failed: Soviet-East European relations in transition. Bloomington: Indiana University Press.

Holden, G. (1989). The Warsaw Pact: Soviet security and bloc politics. London: Blackwell. Holloway, D., & Sharp, J. M. O. (Eds.). (1984). *The Warsaw Pact:* Alliance in transition? Ithaca, NY: Cornell University Press.

The Parallel History Project on NATO and the Warsaw Pact. Retrieved February 9, 2004, from www.isn.ethz.ch/php

The Warsaw Pact. Retrieved February 9, 2004, from www. fordham.edu/halsall/mod/1955warsawpact.html

# Water

Water covers nearly 75 percent of the earth's surface and is an integral component of every living being. Fresh water is essential for human survival; while a person can live for weeks without food, one can only survive a few days without water. Throughout history, the location of available water has played an important role in human development and influenced settlement patterns and farming, social customs, religion, transportation, and power generation.

#### Settlement

The availability of fresh water for human and animal consumption and crop irrigation has influenced human settlement for many millennia. Even though water covers much of the earth's surface, less than 2 percent of it is potable. While many different cultures learned to adapt to harsh or unforgiving environments, water from natural springs, rivers, or rainfall was a necessity for survival. During the early history of humans, the availability of water played an important factor in the survival strategy practiced by humans. Archaeologists have discovered habitation sites that date to the foraging (Paleolithic) era and indicate humans arranged their movement so they were always relatively near a source of fresh water. This would have provided them with water for sustenance and in many cases fish to eat. It also would have provided them with an advantageous hunting spot by giving the hunters an improved chance of catching animals as they visited the watering hole. At Wadi Kubbaniya in Egypt, for example, archaeologists have found a series of sites dating to 17,000–15,000 BCE, which followed the river's path as its streambed moved across the landscape over the centuries.

## War/Drought: Peace/Milk

For all of human existence people have been dependent on ample supplies of water to have enough wild foods, grow plants, and raise animals. Drought is a threat to their very existence. The Somali of northeast Africa equate drought with everything bad and rain with everything good.

At this point, let me add a word on the meaning of "evil" and "good." What are the evils and the virtues we talk about in connection with the days and the year? By "evil" I mean drought, for drought is said to be the source of all evil. The source of all virtue, then, is rain. From this pastoral base, the metaphors can be expanded. Drought, ABAAR, is said to be accompanied by war, COL; rain is accompanied by peace, NABAD. Hence one hears the saying, COL IYO

ABAAR, NABAD IYO CAANO: "war and drought, peace and milk," milk here being synonymous with rain, a further extension of the metaphor. Inter-clan strife may easily result from different families, REERs, arriving at a well at the same time during a drought. If immediate action is not taken, war may result. The opposite is true during a year of plenty. A further extension of the metaphor is, with drought and war, disease, CUDUR; with rain and peace, health, CAAFI-MAD. Also accompanying rain are enjoyment, RAHHO, marriage, worshipping, education, etc. Thus the metaphor of drought and rain is extended to all aspects of the nomadic way of life.

Source: Galaal, M. (1968). The terminology and practice of Somali weather lore, astronomy, and astrology (p. 11). Mogadishu, Somalia: Author

During the Neolithic Age, hunters and gatherers stopped migrating, built permanent dwellings, and became farmers and herdsmen. When they chose a site to build their towns it was usually near an available water source, such as a river or lake. One of the oldest towns, Catalhuyuk in Turkey, serves as a model for these early Neolithic sites. This site, which was established around 7500 BCE, was located very close to several standing bodies of water and archaeologists believe there was available water near the town all year. Its farmlands appear to be several kilometers farther away from the town than the water supply, underscoring the importance of easy access to water. This model can also be seen at other Neolithic sites, like Choirokoitia in Cyprus, which dates to 7000 BCE.

As the population steadily increased during the period from the Neolithic Age to the Iron Age, settlements began appearing in areas where water was not readily available in large quantities or was not available throughout the year. To survive in these regions, humans had to find ways to adapt their survival strategy to provide enough water to sustain life. One of the most widely practiced solutions was to collect water during times when it was plentiful for use at a later time when it was scarce. Different cultures found various ways to accomplish this. In Greece, Italy, and Mesopotamia the farmers relied on winter rains to provide enough rainfall to allow summer "drought farming." The winter rains provided enough water that farmers could successfully grow crops with minor modifications to their schedule. They would plant their crops in the early spring while the soil was still well watered from the winter rains and harvest them in the early summer before all the moisture was lost from the soil due to the warm and arid summer weather patterns. Inhabitants in these regions relied on natural springs and rainwater collected in large cisterns to ensure an adequate drinking water supply for the summer and fall months.

In Arabia, the Nabataeans used a system of rock cut channels and pipes to collect rainwater for storage in underground cisterns, which were lined with waterproof cement. In Egypt, the culture developed close to the banks of the Nile River. The Nile provided water for irrigating fields and the annual flooding of the river deposited new soil on the fields and prevented soil depletion. In the Hellenistic Age, an elaborate system of irrigation ditches was implemented to expand the amount of cultivable land. This irrigation system continued to develop and expand through the Roman, Byzantine, and Islamic periods.

In ancient Persia farmers developed the underground irrigation systems known as qanats as early as the first millennium BCE as a method for delivering needed water to their crops. A *qanat* was an underground enclosed canal that collected groundwater in the mountains and











carried it to fields in low-lying areas using gravity. Along the length of the *qanat* at regular intervals would be placed shafts to allow access to the water channel for cleaning and repair. *Qanats* often involved extensive engineering, were up to forty kilometers in length, and were buried up to one hundred meters below the surface. This system of irrigation was adopted by the Arabs and Byzantines and was still used in Iran until the last half of the twentieth century. There are more than forty thousand known *qanats* in Iran with many still in use today.

Collecting and storing water for long periods often created a new problem when the water became impure or collected sediment. Many ancient civilizations developed techniques for purifying stored water in an attempt to produce better drinking water. Ancient Sanskrit writings dating to 2000 BCE describe different methods for purifying water by boiling or using sand or charcoal for filtering out impurities. Egyptian tomb paintings depict a device for filtering water that allowed sediment and other impurities to settle to the bottom of a collection device, allowing the clear water to be collected from the top.

While farmers needed to live near water sources for crop irrigation, as cities grew larger they also needed

water for the sustenance of their citizens and for maintaining sanitary conditions in the city. Cities depended upon engineers to design systems for delivering water from its source across many miles to its final destination in the city. Both Rome and Constantinople developed impressive aqueduct systems for bringing water to numerous baths, fountains, and private houses. During the third century CE, Rome had

People socializing while getting water from the community well in an Indian village.

nine functioning aqueducts, which provided over three million gallons of water each day to the city. The longest of these aqueducts was slightly over ninety-five kilometers in length. The beginning of the aqueducts was simply a channel cut into the earth with a slight downward gradient that used gravity to move the water toward Rome. As the aqueduct left the hills and approached the city the water channel was carried on raised arches, often more than thirty meters above ground. These channels were one meter wide and 1.8 meters high so workers could enter the channel for cleaning. Three of the aqueducts are still functioning today.

#### Social Aspects

Water has also played an important role in social customs. Bathing was an important ritual in ancient Greece and Rome. Public baths became common in Greece starting in the fifth century BCE. Adopted by the Romans, bathing became an important social aspect of everyday Roman life by the first century CE. Bathing became an important center for social interaction between citizens. Every town would have at least one public bathing structure and houses of wealthier citizens would have private



baths. These bathing complexes would have rooms with differing water temperatures: cold water, tepid, and hot water baths. Larger complexes even had large swimming pools. As the Roman empire expanded in the second and third centuries CE, these complexes became more and more elaborate with vaulted ceilings, glass windows, exotic artwork, and intricate plumbing systems. The baths built by the Roman emperor Caracalla (Marcus Aurelius Antoninus) in 217 CE could accommodate over 1,600 bathers at the same time. These bathing complexes were an important tool for the spread of Roman culture and ideas throughout the empire. Bathing is still an important aspect of some modern cultures like Japan and Finland.

#### Religion

In ancient Greece and Rome, water was an important element in religious rites. Natural springs were considered powerful locations and often became cult worship sites. Along with fire, water was used as a purification element in birth, marriage, death, and sacrificial ceremonies. The idea of water as a tool to purify or remove evil is reinforced by the numerous flood stories from around the globe that recount how god(s) cleansed the earth of evildoers and made a fresh start with a chosen one, such as Noah in the Old Testament, Deucalion in Greek mythology, Utnapishtim in the *Epic of Gilgamesh*, or the East African story of Tumbainot.

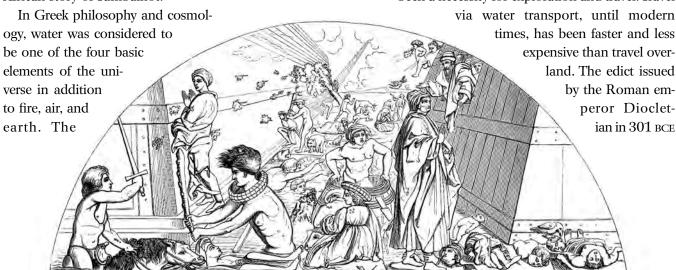
pre-Socratic philosopher Thales of Miletus, writing in the late fifth century BCE, believed the principal element of all things was water and everything else in the universe was a creation of water.

In Zoroastrianism, cultivation of the soil was praised and any action that promoted cultivation was encouraged. This motivated the Sassanian kings who ruled Persia (modern-day Iran) from the third to seventh centuries CE to build dams and extensive irrigation systems.

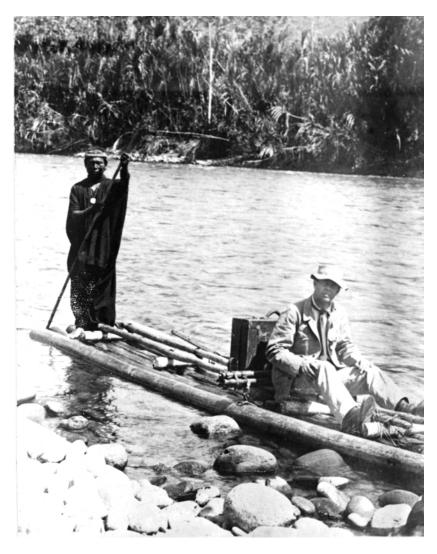
In early Christianity, water was seen as a symbol of purification and life. In Byzantine church liturgy, the blessing of the water was an important ritual and was believed by the church leaders to commemorate Jesus Christ's baptism by John the Baptist. Water remains an important purifying element in modern religions. In many modern Christian sects, baptism (either by sprinkling or immersion) in water to wash away earthly sin is an initiation rite of the faith. In Islam, believers wash their hands, arms, feet, and head to cleanse themselves before praying. Judaism also uses water to purify believers and to cleanse them after coming into contact with unclean items, such as a dead body.

# Transportation and Empires

With so much of the earth covered by water, boats have been a necessity for exploration and travel. Travel



The Deluge, a fresco by Paolo Uccelli (c. 1396-1470) in Florence, Italy.



Travel on waterways was a primary mode of transportation used by humans to explore and settle the earth. In this photo from the early twentieth century, an explorer and his Native American guide set off on a raft on the Amazon River in South America.

Cities or nations whose citizens became skilled at seamanship or building boats were able to capitalize upon this and create large empires, commercially or militarily. By the eighth century BCE, the Phoenicians were able to create a trading network that included the entire Mediterranean Sea and as a result spread Phoenician culture to many different regions. The success of the Phoenicians was repeated on a smaller scale by the Venetians in the Mediterranean and the Hanseatic League in the Baltic Sea in the thirteenth and fourteenth centuries CE.

Cultures that relied on overseas transportation for their commercial goods often developed a strong navy to protect their commercial interests. In the fifth century BCE, the city-state of Athens was able to use its strong maritime presence in the Aegean to create the Athenian empire. In the fif-

teenth century CE, England was able to use the development of its mercantilist policies to create both a strong merchant marine and a strong navy. England was able to use its naval power to further its political policies abroad and build up an empire that spanned the globe.

designed to control maximum prices provides historians with enough information to formulate standard costs of transportation during this period. The document shows transporting goods overland cost between 30 and 50 percent more than sending them by boat. Travel time was also significantly less, provided the weather was favorable.

As commerce increased, merchants and nations tried to find ways to increase the speed and capacity of ships. This led to the development of the carrack and caravel, ship types that could carry larger cargoes and sail faster and required fewer sailors. Another method of shortening the time of sea travel was the creation of canals that linked major bodies of water, eliminating circumnavigation. This led to the building of the Grand Canal (486 BCE), Erie Canal (1825 CE), Suez Canal (1869), Corinthian Canal (1893), Panama Canal (1914), and Rhine-Danube Canal (1992).

#### **Water Power**

Water has also been used to drive machines and create energy. One of the earliest inventions was a waterwheel that used falling or flowing water to drive a shaft that would then turn the mill. Waterwheels were first used by the ancient Greeks and Romans to power mills used for grinding grain into flour and this continued through the medieval period.

With the development of a successful steam engine in the early eighteenth century, the use of waterwheels declined. In the United States during the eighteenth and nineteenth centuries, waterwheels were used to supply

Fire, water, and government know nothing of mercy. • Proverb

power to sawmills, grain mills, and textile factories. In 1882 the first power plant that derived its energy from water power was constructed in Wisconsin. By the early 1940s hydroelectric power provided nearly 40 percent of U.S. energy consumption. Today, Canada, Norway, Switzerland, and Sweden depend heavily upon hydroelectric power.

#### Water in the Twenty-First Century

Since the mid-1980s many nations have come to realize that water is not a limitless commodity and that steps have to be taken in order to protect this valuable resource for future generations. In the twenty-first century several key water issues have emerged. First, as the world's population increases, more countries are unable to meet the increased demand for drinking water. Second, industrialization leads to increased pollution, which further decreases the amount of available drinking water. Third, continued urbanization and deforestation have led to increased flooding and soil erosion. Fourth, as countries look to augment their existing water supply, conflicts over water sharing, particularly of international rivers, have increased. Increased public awareness about these important environmental issues has resulted in the formation of international agencies that are attempting to solve these problems and implement water resource management plans.

Robert Scott Moore

See also Desertification; Water Management

## **Further Reading**

- Beaumont, P., Bonine, M. E., & McLachlan, K. (1989). *Qanat, kariz, and khattara: Traditional water systems in the Middle East and North Africa*. London: School of Oriental and African Studies.
- Crouch, D. P. (1993). Water management in ancient Greek cities. Oxford, UK: Oxford University Press.
- Gischler, C. E. (1979). Water resources in the Arab Middle East and North Africa. Cambridge, UK: Middle East and North African Studies Press.
- Goubert, J.-P. (1989). The conquest of water: The advent of health in the Industrial Age (A. Wilson, Trans.). Princeton, NJ: Princeton University Press.
- Guillerme, A. E. (1988). The age of water: The urban environment in the north of France, A.D. 300–1800. College Station: Texas A&M University Press.

- Hodge, A. T. (1992). Roman aqueducts and water supply. London: Gerald Duckworth.
- Horden, P., & Purcell, N. (2000). Corrupting sea: A study of Mediterranean history. Oxford, UK: Blackwell.
- Kandel, R. (2003). Water from heaven: The story of water from the Big Bang to the rise of civilization, and beyond. New York: Columbia University Press.
- Oleson, J. P. (1984). *Greek and Roman mechanical water-lifting devices*. Dordrecht, Netherlands: D. Reidel.
- Outwater, A. (1997). Water: A natural history. New York: Basic Books. Pisani, D. J. (1996). Water, land, and law in the West: The limits of public policy, 1850–1920. Lawrence: University of Kansas Press.
- Potts, D. T. (1997). Mesopotamian civilization: The material foundations. Ithaca, NY: Cornell University Press.
- Raikes, R. (1967). Water, weather, and prehistory. New York: Humanities Press.
- Reynolds, T. S. (1983). Stronger than a hundred men: The history of the vertical water wheel. Baltimore: Johns Hopkins University Press.
- Schoppa, R. K. (1989). Lakes of empire: Man and water in Chinese history. New Haven, CT: Yale University Press.
- Shaw, R. E. (1990). Canals for a nation: The canal era in the United States, 1790–1860. Lexington: University Press of Kentucky.
- Smith, N. (1977). Men and water: A history of hydro-technology. New York: Charles Scribner's Sons.
- Squatriti, P. (1998). Water and society in early medieval Italy, AD 400– 1000. Cambridge, UK: Cambridge University Press.
- Ward, D. R. (2002). Water wars: Drought, flood, folly, and the politics of thirst. New York: Penguin Putnam.
- Yegul, F. (1992). Baths and bathing in classical antiquity. New York: Architectural History Foundation.

# Water Management

Land-based life on Earth revolves around sweet (non-salty) water. Domesticated plants require a regular and sufficient supply of sweet water. People must manage this water supply. People also must manage the supply of sweet water for humans, for our domesticated animals, and for manufacturing. However, since the invention of agriculture these latter goals often have been met while people manage the water supply for domesticated plants.

Most of the surface of our planet is water, but most of that water is too salty for use by organisms living on land. However, the hydrological cycle (the sequence of conditions by which water passes from vapor in the atmosphere through precipitation onto land or water surfaces and back into the atmosphere) provides a continuous supply of sweet water in the form of rain and snow. After precipitation hits the ground it either runs off on the surface, as rivers and other streams, or soaks into the soil. From the point of view of a farmer cultivating fields in a fixed place, the water environment is sweet, with water running on the surface, water in the top layer of the soil (soil water), and water deeper underground (groundwater).

As is true for most life processes, an ideal amount of water exists for the farmer. However, the environmental supply of water is variable, fluctuating from place to place and from time to time on daily, monthly, and yearly schedules. Combining the need for an ideal amount of water with the unending fluctuation yields three kinds of conditions: about right, too much, and too little. "About right" rarely occurs.

Water has several physical characteristics that are relevant for managing a farm. First, water is liquid and flows easily. Thus, all water responds to gravity and naturally flows downhill. It always takes the shortest possible route. Water is easy to move if a downhill path can be found. However, because water is a liquid, if a person wants to lift it, a sealed container must be used. Second, water is heavy. Lifting it requires not only a sealed container, but also considerable energy. Third, water is an excellent solvent. One of the major functions of water in

the life of the green plant is to dissolve nutrients (from the soil) and transport them into the plant. However, water can also dissolve poisons (including salts). Fourth, water can carry many solid particles in suspension. Erosion of the landscape by running water transports such solid particles downstream.

The farmer wants sweet water for his plants in the right amounts, at the right times, moving at the right speeds, and containing the right components (dissolved, suspended). Irrigation is the technology that increases the water supply to plants, and drainage is the technology that reduces the water supply to plants.

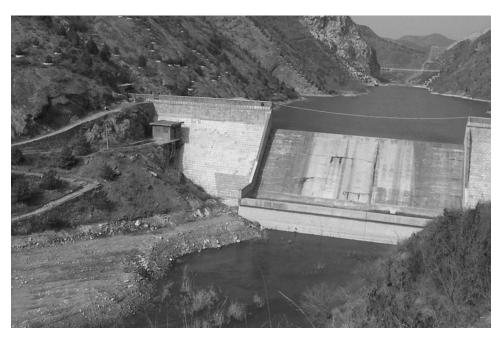
The major energy sources for moving water are gravity, human muscle, animal muscle, wind, and heat engines (mechanisms, such as internal combustion engines, that convert heat energy into mechanical or electrical energy). For irrigation we supply water at a high point, and for drainage we remove it at a low point.

#### Irrigation

The elements of a canal irrigation system are an intake, where ditches tap into a water source; a main canal (sometimes many kilometers long); and a series of branch canals that delivers water to the farmer's fields. Movable gates may control water flow into the branch canals, or

the system may be designed so that water flows in every channel simultaneously.

The ditches move the water from the source to the fields. The technology for digging these ditches is simple and has been invented virtually everywhere. People use digging



A dam at Simatai in March 2004, a Great Wall tourist location to the far north of Beijing. A fine example of the Chinese commitment to dam-building.

The Ganges river near Serampore has long been of major economic and religious significance to Indians.

sticks, shovels made of wood, and hoes made of stone to loosen the dirt. Such tools are old and widespread. People use baskets to move the loosened dirt. Because water responds so quickly to gravity, people can easily test whether a ditch has the right slope and change the slope if they have made errors.

Most irrigation systems are what are called "run of the river," meaning that the water available to them is what is in the river (the source) at the time. The construction problems are obvious (water must flow downhill, dirt must be moved) and the solutions have been invented many times. A significant problem with irrigation systems is variation in environmental moisture. For example, a drought can reduce a river's water supply to a trickle, posing a threat to crops.

One solution to such variation is to store water in a reservoir. However, water storage was quite rare in early world history. The city of Jawa in the Jordanian desert had a storage dam by about 4000 BCE. Tank irrigation systems that stored water behind a small dam were widespread in southern and southeastern Asia by the first millennium BCE. Roman engineers built many small storage dams of masonry, but these dams may have been meant for domestic use rather than for irrigation. An early dam in the New World was the Purron Dam in Mexico. dated to about 800 BCE. That dam was made of earth and at its maximum was 19 meters tall. The dam was in operation for approximately one thousand years and could store more than 3 million cubic meters of water. Purron was one of only two storage dams known to have existed in the highland area of Mexico. Beginning during the late nineteenth century people have built many massive storage dams in most parts of the world. Machinery and modern materials—and a plentiful supply of money have been central to these efforts.



Early irrigation systems built with simple tools were probably widely distributed. Their existence is difficult to document because all subsequent irrigation systems in the same place used the same routes for the ditches. Thus, researchers have difficulty finding and dating the earliest occurrence. However, scholars think they have evidence of irrigation early in all of the world's civilizations. Irrigation may have existed during Neolithic times as well. The tools to build such systems were already available, as was the social organization. Only so many effective designs of an irrigation system exist, and they have existed around the world during all time periods.

#### Drainage

Drainage systems are the reverse of irrigation systems. Irrigation systems move large amounts of water to the top of the fields, then break it down into smaller and smaller packages for distribution to fields. Drainage systems collect small amounts of water at many places high up in the system, combine these small amounts into larger and larger channels, and collect the total at the bottom of the field system. The problem then is where to put the drainage water. If it accumulates it can flood the lower fields. The drainage water so collected is eventually put into a large body of water (a river, the ocean), and often people can use gravity to put it there. Gravity works well as an energy source, and ditches again are used to channel the water. Another technology for draining water is



tile pipes. The pipes, with holes in them, are installed in ditches in the fields and then covered up. The lower end of the pipes must drain into something, usually a river bed. Tile pipes are effective and virtually invisible to all but the most discerning eye.

Another way to drain water is to dig dirt out of a swamp and pile it up so that the top is above the water level, producing what are often called "raised fields." These fields can vary in size from a few square meters at the edge of a swamp to thousands of hectares. Among the earliest water management systems using raised fields were in highland New Guinea, dated to about 5000 BCE.

#### Lifting Water

Because of water's weight and liquid nature, people had difficulty lifting water for many millennia. People used human muscle to lift small amounts of water in pots to water individual plants in the Valley of Oaxaca, Mexico, about 2000 BCE. People in Egypt could lift larger amounts with the shadoof (a beam on top of a pole, with a counterweight at one end and a container for the water on the other end). Human muscle powered the shadoof. People have dug wells (vertical shafts from the surface down to the water table) for a long time, but extracting large amounts of water has been difficult. People have used large domesticated animals to power the raising of larger amounts of water, but the output has not been substantial.

In the dry mountain belt from Turkey to western China, horizontal wells (called "qanats" or "foggara") were widespread. People dug a shaft from the point of use (often an oasis) into a mountain, gently sloping upward, until the shaft met with water-bearing earth. People dug vertical shafts down to the horizontal shaft to remove dirt and to gain access for repairs. Horizontal wells could exceed 60 kilometers in length. They could provide water for centuries if properly maintained.

The first major innovation that increased people's ability to lift water was the windmill, which became prominent in northwestern Europe during the thirteenth century. The Dutch reclaimed low land from the sea by building protective dikes and then draining the water out of the low land behind the dikes. They ganged together large windmills to lift the water out of the low land and dump it into the sea or a river outside the dikes. However, the height to which water could be raised was limited, and the windmills could operate only when the wind was the right speed.

With the advent of the heat engine during the Industrial Revolution the limits on lifting water were eliminated. One of the first tasks that people gave to steam engines was to drive pumps that drained water from flooded coal mines. Later uses included pumping drainage water out of a basin and lifting water for irrigation. People could lift water from a surface source (such as a river or lake) or from a deep well. Today people acquire a great deal of irrigation water from deep underground, and they could not do this without the heat engine to drive a pump.

With the introduction of the internal combustion engine, small pump and driver (an engine that powers the pump) sets became feasible, even to the point that farmers could own such sets and move them around the farm to where they were needed. However, although such sets save labor, they are expensive in terms of energy.

A modern innovation in irrigation technology is the pressurized system. Two major forms are used: sprinkler systems and drip systems. In sprinkler systems a pump and driver pressurize water, which is then moved through a series of pipes that is above the level of the plants that are to be irrigated. These pipes have multiple nozzles, and the water distribution mimics a light rain. Two major advantages of this system are: (1) Water use is much more efficient (more than 90 percent of the water reaches the crop root zone; by contrast, ditches have efficiency as low as 50 percent), and (2) no need exists to sculpt the surface of the soil, thus saving labor and energy. A small computer can operate a number of these sprinkler systems, saving even more labor. These systems also can deliver chemicals (fertilizers, pesticides) in the water. The major disadvantage is that the technology is energy intensive. However, people use sprinkler systems throughout much of the world; people flying in an airplane at 10,000 meters can see the green circles made by a rotary sprinkler system.

The other form of pressurized system is drip irrigation. Developed mainly in Israel (where the need to conserve water is great), drip irrigation uses long hoses with holes in them that are buried in the root zone. Water is forced through the hoses and exits the hoses through the holes. People also can put fertilizer and pesticides into the water, thus delivering them directly to the root zone. These systems are even more efficient than sprinkler systems, approaching 0 percent water loss, and they save on the labor to apply fertilizer and pesticide. A major disadvantage, of course, is the cost in energy to run the system. Another disadvantage is that the holes in the pipes can clog. Clogging requires that the hoses be exposed, which means excavating them, with possible damage to the crops.

#### Water Management in History

People have used irrigation systems and drainage systems to manage water for thousands of years and have built and operated such systems without writing and without scientific laboratories. The relationship between water stress (too much, too little) and the health of a green plant is obvious to any intelligent observer. People can use simple tools, easily made, to loosen and move dirt to dig ditches. Ditches will not function if their layout is wrong because water will not flow uphill in an open ditch. Trial, error, and correction are part of the success. A modern scientific understanding of water, green plants, soil, solutions, the hydrological cycle, and photosynthesis began during the nineteenth century and is still generating knowledge. People needed instruments (microscope, thermometer, balance) and the disciplines of physics, chemistry, anatomy, and physiology to achieve the scientific knowledge that we now have.

The impact of irrigation and drainage on world history has been great. Irrigation and drainage permit people to grow crops where otherwise it would be difficult or impossible. The growing of crops in turn permits a larger, denser population. Some scholars have claimed that civilization itself could not have occurred without irrigation and drainage. If that is true, these technologies have been important in the birth of cities and have played a role in economic surplus, full-time division of labor, metal tools, astronomy, and eventually other sciences. However, people built and operated water management systems for millennia in areas that did not acquire cities and writing (such as New Guinea in the Malay Archipelago and the Hohokam people in Arizona).

Irrigation and drainage change the water balance of the landscape, and along with agriculture they change the plants and animals there. In order to safely grow our domesticated plants and animals people have wanted to eliminate plants and especially animals that are dangerous. Lions, tigers and elephants have been hunted and killed. The entire landscape has been changed in ways that we could call domestication. At the same time, however, we have provided habitats for small dangerous life forms, such as malaria. The blessings are mixed.

The simple tools and knowledge needed to build and operate irrigation systems and drainage systems exist everywhere, and traditionally there was little variation in the forms of such systems. With the Industrial Revolution, however, the scenario changed. European colonial powers built large storage dams during the nineteenth and twentieth centuries, using industrial technology. Storage dams were not new, but the scale of them was. The practice of lifting water with heat engines diffused widely, and this practice, too, used an industrial technology. Today people everywhere use heat engines linked to pumps, replacing traditional systems. Significantly, the technology is also manufactured just about everywhere.

#### The Future

The future of water management is a cloudy one. World population is growing, and such growth will increase the demands for food and for space for buildings. A substantial portion of the world's food is now grown with irrigation, and this portion will only increase in the near future. An easy way to gain space to build is to drain wetlands. With industrial technology and (cheap) energy we have the technical capacity to build and operate large water management systems.

However, the best places for storage dams have already been taken, and finding new sources of water will be Aristotle may be regarded as the cultural barometer of Western history. Whenever his influence dominated the scene, it paved the way for one of history's brilliant eras; whenever it fell, so did mankind. • Ayn Rand (1905–1982)

increasingly difficult. The draining of wetlands damages the environment, and people are trying to limit how much can be drained. Industrial populations are voracious users of water (for toilets, manufacturing, irrigation, recreation, etc.), and thus pressure to limit the amount of water that farmers can use is growing. Multiple uses of sweet water (for navigation, recreation, biological diversity) grow in number and in intensity. No clear way exists to solve the water problems that occur in nearly every nation. One technical solution is to increase the efficiency of our water use, and science will be crucial in that solution. However, the problems are not just technical ones—the beliefs and expectations of the consumers of water are also relevant and far less understood than are the properties of dirt, plants, and water.

Robert C. Hunt

#### Further Reading

Adams, R. M. (1966). The evolution of urban society: Early Mesopotamia and prehispanic Mexico. Chicago: Aldine.

Butzer, K. W. (1976). Early hydraulic civilization in Egypt: A study in cultural ecology. Chicago: University of Chicago Press.

Childe, V. G. (1951). Man makes himself. New York: New American Library.

Denham, T. P., Haberle, S. G., Lentfer, C., Fullagar, R., Field, J., Therin, M., Porch, N., & Winsborough, B. (2003). Origins of agriculture at Kuk swamp in the highlands of New Guinea. Science, 301, 189–193.

Doolittle, W. E., Jr. (1990). Canal irrigation in prehistoric Mexico: The sequence of technological change. Austin: University of Texas Press.

Gumerman, G. (Ed.). (1991). Exploring the Hohokam: Prehistoric desert peoples of the American Southwest. Albuquerque: University of New Mexico Press.

Hall, A. R., & Smith, N. (Eds.). (1976). History of technology: Vol. 1. From early times to fall of ancient empires. London: Mansell.

Helms, S. W. (1981). Jawa, lost city of the desert. Ithaca, NY: Cornell University Press.

Hills, R. L. (1994). Power from wind: A history of windmill technology. Cambridge, UK: Cambridge University Press.

Hunt, R. C. (2002). Irrigated farming. In J. Mokyr (Ed.), Oxford encyclopedia of economic history (Vol. 3, pp. 165–168). Oxford, UK: Oxford University Press.

Scarborough, V. L. (2003). The flow of power: Ancient water systems and landscapes. Santa Fe, NM: School of American Research.

Service, E. R. (1975). Origins of the state and civilization: The process of cultural evolution. New York: W. W. Norton.

Wikander, O. (Ed.). (2000). Handbook of ancient water technology. Leiden, the Netherlands: Brill.

Wilkinson, T. J. (2003). Archaeological landscapes of the Near East. Tucson: University of Arizona Press.

Wittfogel, K. (1957). Oriental despotism. New Haven, CT: Yale University Press.

# Weapons

See Firearms; Military Strategy and Tactics; Warfare, Land; Warfare, Naval

# Western Civilization

Western civilization is an historical concept with a recent origin and quite uncertain future. In many ways, the term became a secular equivalent to Latin Christendom in the United States, but the term never took firm hold in Europe itself, where national differences loomed too large.

The word *civilization* entered English from the French in the late eighteenth century, and initially meant polite behavior, just as it did in French. Manners that permitted a person to find his or her proper place in polite society was what civilization referred to. That meant using words and gestures to defer to superiors, snub inferiors, and climb as high as one could by peaceable means. Bearing, conversation, and clothing all mattered; so did wealth; and familiarity with art, literature, and music also helped to improve a person's claim to be civilized. It differed from older courtly ideals inasmuch as no monarch set the tone or conferred formal rank. Civilization instead was an urban upper class phenomenon whose exact definition evolved in accordance with prevailing opinions among those who participated in polite society.

To begin with, such behavior was conceived as potentially universal. To be sure, civilization was most perfectly expressed in Parisian drawing rooms, theaters, and other public places, with London a close rival. But privileged urban circles in Germany, Russia, and other European countries did their best to imitate French manners, often going so far as to read and speak French and import the latest fashions from Paris. This sort of "civilization," however contagious it proved to be, was limited to narrow elites, even within France itself. Even before the eighteenth

## Western and Chinese Civilization

This extract of text is from an essay from the eminent British philosopher in the Dial, an influential intellectual and literary magazine of the early twentieth century. It is an example of the point of view that Western civilization is superior to others and the world would benefit from its spread.

The traditional civilization of China had become unprogressive, and had ceased to produce much of value in the way of art and literature. This was not due, I think, to any decadence in the race, but merely to lack of new material. The influx of Western knowledge provides just the stimulus that was needed. Chinese students are able and extraordinarily keen. Higher education suffers from lack of funds and

absence of libraries, but does not suffer from any lack of the finest human material. Although Chinese civilization has hitherto been deficient in science, it never contained anything hostile to science, and therefore the spread of scientific knowledge encounters no such obstacles as the Church put in its way in Europe. I have no doubt that if the Chinese could get a stable government and sufficient funds, they would, within the next thirty years, begin to produce remarkable work in science. It is quite likely that they might outstrip us, because they come with fresh zest and with all the ardour of a renaissance. In fact the enthusiasm for learning in Young China reminds one constantly of the renaissance spirit in fifteenth century Italy.

Source: Russell, B. (1922). Chinese civilization and the West. The Dial, 72, 361.

century ended, a reaction set in among Germans, some of whom preferred to believe that their language and culture embodied a unique spirit that was incompatible with French "civilized" ways of thinking and acting.

Early in the eighteenth century, patriotic Germans persuaded themselves that German Kultur was intrinsically superior to French civilization, and Russian Slavophils soon argued for the superiority of the Slavic soul over more westerly versions of Kultur and civilization. Meanwhile in France and England, easy and rapid imperial expansion in Africa and Asia seemed evidence of their superiority to other peoples; and the term civilization was broadened to describe the achievements of British, French and European society as a whole. French and British empires were the most extensive and both countries were situated in western Europe; but no one made much of that geographical detail. Before World War I, by and large, civilization was conceived as unitary, centered in Europe and destined to illuminate and eventually improve the lives of other peoples in colonial (and excolonial lands like the United States) as they learned the skills and style of civilized behavior from contacts with civilized Europeans.

This intellectual landscape altered abruptly during World War I. In particular, the concept of Western civilization came to the fore in the English-speaking world when defense of "Western civilization" against the attacking Germans became a theme of British propaganda. In an incautious moment, Kaiser Wilhelm actually told his troops to mimic the fury of the Huns; and by calling German soldiers "Huns," British propagandists were able to confuse the obvious fact that Germans shared western European civilization and made them out to be barbarians from the east. To be sure, concepts of west-east polarity had antecedents going all the way back to Herodotus who had contrasted free Greeks on the western side of the Aegean Sea with enslaved Persians coming from the east. And British war propaganda rejuvenated that motif by celebrating British and French "liberty" as against Germany's imperial, aristocratic-and wickedly aggressive-government. When the United States entered the war in 1917, President Woodrow Wilson chimed in by claiming his government's purpose was to make the world safe for democracy.

After 1918, these wartime follies were soon abandoned in Britain and France; not without some sense of shame. Throughout Europe, separate nationalistic histories, elaborated during the nineteenth century, continued to dominate classrooms in schools and universities. Accordingly, differences among the countries and peoples of Europe seemed more significant than western or any other sort of shared civilization. Instead, each nation treasured its own grievances against neighbors and cherished its own claims to greatness. Conviction of

## Hu Shih: The Difference Between Eastern and Western Civilizations

A onetime cultural critic who became a leading figure in the emergence of modern China, Hu Shih rose to prominence by promoting the use of the vernacular in literature—a practice that earned him the title "father of the Chinese literary renaissance." The excerpt below describes his views on the difference between eastern and western civilizations.

The Oriental civilization is built primarily on human labor as the source of power whereas the modern civilization of the West is built on the basis of the power of machinery. As one of my American friends has put it, "each man, woman and child in America possesses from twenty-five to thirty mechanical slaves, while it is estimated that each man, woman and child in China has at his command but three quarters of one mechanical slave." An American engineer has stated the case in almost the same language: "Every person in the United States has thirty-five invisible slaves working for him...The American workman is not a wage slave, but a boss of a considerable force, whether he realizes it or not." Herein lies the real explanation of the difference between the two civilizations. It is a difference in degree which in the course of time has almost amounted to a difference in kind.

Source: Hu Shih (1931). The civilizations of the East and West. New York: Simon and Schuster.

European superiority to Asians and Africans persisted, but that was based more directly on skin color than on such an intangible as western civilization.

#### Western "Civ" Enters the College Curriculum

In the United States, however, the concept of Western civilization had a far more significant career. Courses in Western civilization were invented during World War I to explain to draftees what they were fighting for. These survived the war in a few American colleges, and spread widely in the 1930s, supplementing American national history and becoming required introductory courses for a great many students. Western "civ" courses retained that privileged status until the 1960s or later so that a whole generation of college students acquired a modest familiarity with ancient, medieval and modern European history, and the belief that they were heirs of that past. This was accompanied by almost total ignorance of the history of the four-fifths of humankind excluded from Western civ courses.

Reasons for this curricular development are not far to seek. American national history was too brief to connect directly with ancient Greece and Rome, the staple of humanistic higher education as transmitted to the country's Founding Fathers. Filling the gap with British history was acceptable to many Americans of English and Scottish descent, but Americans whose ancestors had come from other parts of Europe wanted a broader-based past and found it in "Western civilization" courses. And by annexing Western civilization to their own national history, Americans achieved a grander, more inclusive cultural ancestry than any single European country could boast.

There was a second and in many ways more powerful intellectual impetus behind western civilization courses as they came on stream in the 1930s. Most college-bound Americans had learned a smattering of Biblical history in Sunday school, and the Christian (and Jewish) view that God governed the course of events was firmly implanted in their minds. But ever since the eighteenth century a contrary liberal, Enlightenment view of history had taken root in a limited intellectual circle, according to which the progress of liberty was what mattered most, and liberation from religious error by recognizing historical causes with which God had nothing to do was part of the story.

Western civ courses offered a splendid opportunity to juxtapose these rival worldviews. By pitting Reason against Faith, St. Socrates against St. Paul, such courses spoke to central concerns of generations of students. Choosing to focus on a few great books, works of art and big ideas, and showing how they changed from age to age, introduced college students to aspects of the western

## The Iroquois View of Western Civilization

The Iroquois are an indigenous nation of the northeast in the United States and southeastern Canada. As part of their expression of their political, cultural, and economic rights over the last several decades, some Iroquois have set forth a revisionist view of their own history and the history of the world. The following text sets forth the views on Western Civilization of Mohawk Iroquois traditionalists in the community of Akwesasne (St. Regis Reserve/Reservation) on the U.S.-Canadian border.

The third and most important element in the narrative is its construction of history-worldwide in scope, from beginning to end—as a struggle between destructive colonial powers and oppressed indigenous, or "natural" peoples. This colonial-indigenous dichotomy not only structures the historical world process but also serves as an explicit indigenous critique of the West. The position papers are a message ... which identifies the process of that abuse of the planet as Western Civilization . . . What is presented here is nothing less audacious than a cosmogony of the Industrialized World presented by the most politically powerful and independent non-Western political body surviving in North America [the Iroquois League (Akwesasne Notes 1978, 69). The position papers undertake an analysis of Western Civilization from the perspective of a natural and ancient culture. They see this task as imperative "in the age of the Neutron bomb, Watergate, and nuclear energy plant proliferation . . . " Iroquois tradition, unlike Christianity, Mohammedanism, or Judaism, reaches back to at least the end of the Pleistocene.... People who are familiar with the Hau de no sau nee beliefs will recognize that modern scientific evidence shows that the Native customs of today are not markedly different from those practiced by ancient people at least 70,000 years ago

(Akwesasne Notes 1978, 69–70). The Iroquois have a "geological kind of perspective," which sees modern whites as young children "committing incredible destructive folly" (Akwesasne Notes 1978, 70).

The historical critique is also a cultural critique. What the position papers call the "Iroquois Way of Life" is a spiritual consciousness which acknowledges the interdependence and equality of all living creatures, and recognizes the necessity for gratitude to the Creator (Akwesasne Notes 1978, 72). In contrast, other peoples in the world began with a spiritual consciousness, but have lost it. When humans domesticated animals they "assumed the functions which had for all time been the functions of the spirits of animals." When Semitic peoples developed irrigation technology, they "reproduced a function of Nature" (Akwesasne Notes 1978, 73–74). Technology led to cities which led to stratification, imperialism, and laws. Christianity became the servant of the new technology and "imposed itself exclusively of all other beliefs." All remaining tribal European peoples with pantheistic religions were "de-spiritualized" by becoming Christian (Akwesasne Notes 1978, 75). The theoretical perspective at work in this analysis is cultural evolutionism with a devolutionary emphasis—the non-Indian cultures of the world have increasingly degenerated into destructive materialism.

Exploitation of the "Natural World" by Western cultures has meant the extinction of species of birds and animals, forests levelled, waters polluted, and Indians "subjected to genocide" (Akwesasne Notes 1978, 76-77). "Western technology and the people who have employed it have been the most amazingly destructive forces in all of human history." Having exhausted all other sources of energy, Western Civilization has now "settled on atomic energy... which has by products which are the most poisonous substances ever known to Man." The Indian "Way of Life," which is

cultural heritage and invited them to pick and choose what to accept and what to reject from it. As such Western civ courses came alive for innumerable college students and helped them to shape a meaningful world from which the majority of humankind was tacitly excluded.

By the 1960s this constellation of circumstances altered and Western civ courses soon lost their preferred place in most American colleges. Their dismantlement arose mainly from the discontent of young instructors who objected to teaching hand-me-down Western civ the only hope of the planet, is also "fast disappearing, a victim of the destructive processes" (Akwesasne Notes 1978, 77).

The destruction of the Native cultures and peoples is the same process which has destroyed and is destroying life on this planet. . . . And that process is Western Civilization. . . . The process of colonialism and imperialism which has affected the Hau de no sau nee are but a microcosm of the processes affecting the world (Akwesasne Notes 1978, 78). The position papers argue throughout that Western Civilization is responsible for genocide, extractive technology, pollution, and will ultimately destroy the world. They argue throughout that each separate institution within Western Civilization—the church, state and federal governments, schools—is colonialist; and that representatives of these institutions, from school teachers to government officials, serve as oppressors of the Iroquois people, and are agents of acculturation, a term meaning, in the lexicon of traditionalists, distortion or repression of authentic Iroquois cultural consciousness.

The position papers portray all the natural or indigenous peoples of the world as opposed to the forces of the West. They suggest that "indigenous peoples" are those who are connected by ancient roots to a piece of land, who live in harmony with nature without exploiting either resources or other peoples, and who, above all, have a spiritual understanding of and relationship with the earth. The difference between the two ways of life described in the text, between Western civilization and indigenous peoples, is essentially a difference in the relationship each has with nature. The one exploits, extracts, destroys; the other respects, conserves, and lives in harmony with nature.

Source: Ciborski, S. (1990). Culture and power: The emergence and politics of Akwesasne Mohawk traditionalism (pp. 100-102). Ann Arbor, MI: University Microfilms

instead of presenting their own up-to-date specialized fields of research, as tenured professors preferred to do. Since tenure depended on published research it was clear that teaching Western civ delayed professional advancement. Tenured professors could not deny that obvious fact, so such courses had few defenders and most of them were soon scrapped.

Changes on the religious scene also contributed to making them obsolete. Decaying Sunday school training deprived Western civ courses of their earlier intellectual bite for some students, and a contrary current of bornagain religious commitment made secular history unwelcome to others. Efforts to expand the scope of Western civ to embrace the rest of the world remained weak and sporadic and have not yet become really respectable in the eyes of most academic historians. Instead, industrious researchers multiplied specialties, making national history more and more incoherent, and calling the validity of every sort of statement about large-scale history into ever more serious question.

The collapse of European empires after World War II and widespread rejection of claims to any sort of ethnic, racial or cultural superiority was a third factor that undermined the legitimacy of Western civ courses. And as students of non-European descent began to show up in college classrooms, efforts to accommodate them by teaching Amerindian, Asian, Latin American, and African history multiplied. Multiple civilizations, all conceived as equal and separate, became fashionable; and when outsiders intruded, as Europeans had done so obviously in the nineteenth century, they were often blamed for it. Western civ thus became something of a bogey man—the exact opposite of what American undergraduates had been brought up to believe between 1930 and 1960.

Further transformations of American historical teaching no doubt lie ahead. Western civ is likely to continue to play a conspicuous part as it has since the 1930s, because how to fit Europe as a whole and western Europe in particular into the recent history of the world remains so problematic. Yet the whole concept of Western civilization as an entity acting in world affairs is uncertain. Structuring world history around separate civilizations, became commonplace after Oswald Spengler's The Decline of the West (1918-1922) and Arnold J. Toynbee's A Study of History (1934–1961) did so. But as globalization advances, the separateness of local civilizations blurs, and historians, reflecting their times, have begun to emphasize larger, trans-civilizational



connections, while simultaneously questioning the coherence of Western or any other regional civilization.

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See also Writing World History

#### **Further Reading**

Spengler, O. (1922). *The decline of the west* (2 Vols.). (C. F. Atkinson, Trans.). New York: Alfred A. Knopf.

Toynbee, A. J. (1987). A study of history (12 Vols.). Oxford, UK: Oxford University Press.

# Women's and Gender History

Women's and gender history may be defined as the history of relations between women and men, of the changing understanding of femininity and masculinity, and of the importance of gender in the organization of society. Since any society, anywhere and at any time, consists of women and men, gender interacts with other categories, such as race, ethnicity, class, citizenship, nationalism, imperialism, and religion, and with other value systems. It assumes importance in divisions of labor as well as in cross-cultural encounters throughout time and has served as a trope for hierarchical perceptions of cultures and power relations.

Gender perspectives in world history date back at least to Enlightenment world histories. At the end of the eighteenth century, historians frequently focused on costumes and manners, and on peoples' ways of life. Some works pointed to the importance of material conditions, as well as to religious and political systems, for defining women's status; some compared the lives of women within different cultures; some even characterised non-European people as feminine and implicitly less civilised. But when from the early nineteenth century historical research narrowed to national histories, mostly concentrating on political history, the question of gender was left to be explored by

other disciplines, such as social anthropology and sociology. In the 1960s, universal history again attracted attention, mainly in the United States. By then historical research was being criticized for neglecting women and seeing men as universal representatives of humankind. Inspired by women's movements and by new approaches to historical studies, such as the history of mentalities, demographic history, and family history, the interest in women's history now blossomed at the national level. During the 1990s this approach also made itself felt within the growing field of universal history.

# The Theoretical Framework

Most historical research rests on a dichotomous understanding of gender. An individual is seen as either a woman or a man. Some also take for granted that biology determines not only the sex of a person but also the gender. Historians have challenged this dichotomy by investigating the historical understanding of sexual differences. Departing from Aristotle's assumption of the existence of only one sex, which sees women as embryonic, unfinished males, passing by the dichotomy created by Christianity that equates men with spirituality and women with materiality, they have traced the rise of the two-sex model from the end of the eighteenth century, reaching an apogee through Darwinism and the medical sciences, and experiencing a recent rebirth with sociobiology.

Anthropology and cross-cultural history have cast doubts on this dichotomous understanding of gender. In many parts of the world, notably Africa, but also Alaska, the Amazon region, and parts of Asia, individuals have assumed tasks, behavior, and clothing that might be seen as characterizing the opposite sex. Some cultures have seen age as determining gender, understanding children and old people as belonging to different genders than grown-up males and females. Add to this the study of gay and lesbian history, and it will be understood that world histories need to be aware of variations in the understanding of femininity and masculinity.

An increasing number of studies have shown that systems of sexual differentiation affected both women and men. These revealed the need to study the history of men, too, as gendered individuals. A distinction between sex—that is, physical anatomical differences—and gender—that is, culturally and historically constructed differences between women and men—started the argument over essentialism versus constructionalism. In the 1990s queer theory and post-structuralism further diversified approaches to gender history. The linguistic turn, which focused on texts—literary as well as visual material—rather than on events, individuals, or groups also helped pave the way for studying gender as a trope for hierarchical relations in fields of history that at the outset seemed to have nothing to do with gender.

Some historians have feared that these approaches would deprive women's history of the possibility of studying women as agents in history and reduce the focus of history to the history of women's lived lives. The term *gender history* has also sometimes been seen as a departure from the original aim of restoring women to history and as weakening the political potential of women's history. Gradually, however, helped by the growth in interdisciplinary research approaches, such divisions have become less distinct. Gender history and men's history are now frequently seen as outgrowths of and parallels to women's history, and cultural studies have united a number of approaches to historical research.

Applying gender as an analytical category to world history may be a fruitful way to see gender as a process where the meanings and importance of gender may change over time, and where the importance of other analytical categories—ethnicity, race, class, national and cultural identity, and so on—may interact with gender in varying ways. Gender may be seen as a basic social structure that in any culture, in any society, and at all times interacts with other social structures to determine the socialization of an individual, the distribution of work and responsibilities, and of rights in the family and in society. Gender is at work in studies of material life as well as of ideologies and politics. When societies change, so do gender relations, and changes in gender relations influence other social relations.

# From Matriarchy to Patriarchy?

Global women's and gender history is still a very new field of research. So far, a central issue has been the question of the origin of patriarchy. Although most cultures overtly allocated more direct power to men than to women, historians have wondered if there was once a time when this was not so. Some have postulated the existence of prehistoric matriarchal societies in Africa, in the early Americas, and in Europe. The German nineteenth century scholar J. J. Bachofen (1815–1887) saw such societies as primitive ones that were gradually supplanted by patriarchies, which were more advanced. The socialist Friedrich Engels (1820–1895) believed that agriculture and private ownership gave rise to the nuclear family in which men controlled women's sexuality in order to ensure legitimate offspring.

The American historian Gerda Lerner (born 1920) has put forward the theory that patriarchy was based on the exchange of women among men and preceded other hierarchies. Other theories have examined the importance of men's physical strength and women's need for protection for the development of patriarchy, or they have interrogated the impact of religious and other ideological forces, of material structures such as plough-cultures, private ownership, literacy, and not least, of state formation and political systems on gender relations. Whatever the theory, insufficient source material makes it hard to decide how male-dominated societies evolved. But the complicated structures of such societies and the variations among them through time remain enticing research areas.

#### Gendered Global Human Experiences

Applying gender as an analytical category means questioning the divide between the history of economic, social, political, and ideological structures and the history of private lives. A basic question may be the shifting importance of the household and family unit to the development of any society. In fact, all global human experiences lend themselves very well to gender analysis. Family structures, economic and social life, politics and

value systems, religion, education, and sexuality all, vary with gender among cultures and over time to different degrees. A good example may be the gendered effects of twentieth century population policies. While men and women alike were preoccupied with the family economy and the future of the nation, women experienced population policies on their own bodies. Technological and economic changes, such as the industrial revolution, built on the existence of a gendered labor force and offered cheap routine female and male labor as well as more expensive specialised, exclusively male labor.

The formation of nation states and national identities also included women and men in different ways, burdening men with military protection, national expansion, and the economic success of the nation, and women with generational reproduction and the social upbringing of new members of the nation. While preindustrial societies sometimes lent women political power through family connections, for a long time modernizing democratic states allocated such power only to men. Regardless of class, ethnicity, or skin color, with very few exceptions women were the last group to obtain suffrage. Religious systems and other ideologies throughout time have contributed in various ways to uphold gender differences and gendered power relations.

#### Reconsidering Central Concepts

Gender analysis leads to the reconsideration of central concepts. The widely accepted definition of *work* as paid work in the public sphere will need to be revised in order to include women's unpaid work in the family and household. The importance of this work, as well as the importance of a cheap female labor force, must be taken into consideration in any analysis of material life.

The concept of *power* must incorporate patriarchal power structures into class and race analysis, and consider the effect of psychological sources of power, such as an appeal to emotions, to chivalry, and to honor. Politics must be considered in a wider context than that of public authorities. Civil society as well as kinship must be taken into consideration.

Access—be it physical access to certain spaces or immaterial access to certain prerogatives such as education or political power—is another concept that may be useful for women's and gender history. Why was women's access to public spaces and even physical mobility more limited than men's, and why and how did this vary with social standing and among cultures? The history of physical barriers, such as foot-binding, zenanas, and harems, as well as of the morally grounded limits to women's mobility includes a gendered understanding of access. Needless to say, educational and political systems were moulded in the same perception of gendered spaces. Why did some groups of both men and women struggle to continue such traditions, while others fought to eliminate them?

Special consideration may be given to the understanding of *identity*. Joggling gender, class, caste, ethnicity, and nationality may seem to dissolve personal identity. But analyzing situations where several identities are at play, the historian may ask what prompts one of them to take precedence over the others. Why would an individual at times act mainly as a woman, at other times mainly as a member of a certain social group or of a specific nation? How did gender influence class identity and how did caste identity vary with gender?

In short, rethinking a number of concepts indispensable to historical analysis will bring forward a new and more varied knowledge of global human experiences.

#### Cross-Cultural Interactions

Gender played an important role in the meeting of different cultures—for example, the varied influence of Islamic understandings of gender in India and sub-Saharan Africa from the eleventh century onwards or the Chinese military expansion during the Tang and Song dynasties (618–1279), which spread a strict patriarchal culture to much of East Asia. Chinese-Mongol contacts, however, witnessed a reciprocal distaste for gender relations in the other culture and left little influence either way. Colonial and imperial contacts are the most explored cross-cultural meetings. Enlightenment world historians used gender as a trope for communicating cul-

## Informal Sources of Power among Women

Although men have more power than women in China, women certainly do exercise power. However, their power tends to be informal and to be most obvious in the family and in the community, as indicated by this description of women in community on Taiwan. This is typical of many societies and because female power is exercised in private, it has often gone unnoticed by outside observers.

The power young women wield as they build their uterine families and attempt to manipulate their husbands is of a peculiar kind. It consists in subverting and disrupting the family form that most Chinese men hold dear-the family that grows from generation to generation without interruption and without division. Sons, their wives, and their children should live in harmony under the guidance of the eldest male. The goals and desires of young married women conflict with this ideal, and it is largely their machi-

nations that prevent its attainment. The power women have is their capacity to alter a family's form by adding members to it, dividing it, and disturbing male authority; the danger they pose is their capacity to break up what men consider the ideal family. . . .

We once asked a male friend in Peihotien just what "having face" amounted to. He replied, "When no one is talking about a family, you can say it has face." This is precisely where women wield their power. When a man behaves in a way they consider wrong, they talk about him-not only among themselves, but to their sons and husbands. No one "tells him how to mind his own business," but it becomes abundantly clear that he is losing face and by continuing in this manner may bring shame to the family of his ancestors and descendants. Few men will risk that.

Source: Ahern, E. M. (1978). The power and pollution of Chinese women. In A. P. Wolf (Ed.), Studies in Chinese Society (pp. 276-277). Stanford, CA: Stanford University Press.

tural differences. They sometimes characterized non-European cultures not only as "hideous" and "darkcolored," but also as exhibiting unsympathetic characteristics such as "more than feminine cowardice." Later male colonizers could construct the notion of colonized women as representing "true femininity" since they served and obeyed men, in opposition to their Western counterparts, who increasingly refused to do so and even demanded the same rights as men.

Ironically, women missionaries, in their ardent attempts to spread Western values and lacking a full understanding of the workings of gender in cultures other than their own, often encouraged Victorian feminine behavior in colonized women. This they did despite the fact that many of them had intentionally broken out of the limitations implied in Victorian ideals.

The Western understanding of masculinity was also at play. The British would perceive a physically strong and athletic male body and the capacity for self-control and restraint as necessary for those who intended to rule a nation. Seeing Bengali middle class men as small, frail, effeminate, and lacking self-control, British officials might find them unable to govern themselves, let alone a whole society.

The interaction of changing understandings of gender provides an interesting approach to the study of cultural encounters. Growing opposition to British rule and westernization strengthened the need for the family as a refuge for Bengali middle-class men. This paved the way for more education for women so they could become intelligent mothers and wives who would uphold Bengali historic traditions within the family. But in the long run this also led to the formation of Indian women's organizations, and for a while to cooperation between Indian and British women in the fight for women's suffrage. British repressive policies at the end of World War I, however, damaged these cross-cultural contacts, and Indian women rebelled against being seen as young daughters to be educated by British protective mothers. The spread of Western feminism after World War II raised similar questions about cooperation and conflict among women.

## **Critical Dialogues?**

As in so many other fields, the uneven growth of historical sciences around the world has implications for the gendering of world history. Women's and gender history first evolved in the United States and Canada, and was taken up soon afterward by Western European universities; the spread to Eastern Europe and to Asian, African, and Latin American universities was slower. However, since many historians from these parts of the world are educated at American or European universities, Western research approaches and Western theories exert an overwhelming influence within women's and gender history all over the world.

Special awareness is needed when studying culturally contested historical phenomena, especially if they have an impact on today's societies. Among them are traditions such as sati, (widow burning), veiling, and female genital mutilation. For a historian analyzing these traditions, it becomes especially important to distinguish between attempting to understand and explain behavior that is foreign, or sometimes even repulsive, to her and accepting such behavior. Understanding is not the same as accepting. Historians may need to openly acknowledge their own limited cultural and class background, sometimes even their gendered background, in order to work at transgressing such limits. Subaltern studies like those in the 1980s have helped counteract the flood of Western histories. Dialogues have been encouraged by the trend to stop perceiving colonialism and imperialism exclusively as a polarization between the metropolis and the colony and instead, to highlight the interaction between what used to be seen as center and periphery. Critical dialogues among historians of various cultural backgrounds are multiplying at international conferences, in journals especially devoted to women's and gender history, and through the workings of the International Federation for Research in Women's History. Such developments are promising for further research in global women's and gender history.

The very character of gender as an analytical category makes it an excellent tool for world historians working at any period, and in any society or region. Women's and gender history yields a wealth of new knowledge about the global past. There is a lot to gain by exploring this field of world history—and a lot to lose from not doing so.

Ida Blom

#### Further Reading

- Bibliographic Guide to studies on the status of women: development and population trends. (1983). Paris: Bowker/Unipuib/Unesco.
- Blom, I. (Ed.). (1991/1992). Cappelens kvinnehistorie. The Cappelen women's world history, 1-3. Oslo & Copenhagen: J. W. Cappelens forlag/Politikens forlag.
- Blom, I. (1995). Feminism and nationalism in the early twentieth century: A cross-cultural perspective. Journal of Women's History, 7(4), 82–94.
- Blom, I. (1997). World history as gender history: The case of the nation state. In S. Tønnessen et al. (Eds.), Between National Histories and Global History: Conference report for the 23rd meeting of Nordic historians (pp. 71-92). Helsingfors: Finnish Historical Society.
- Blom, I., Hagemann, K., & Hall, C. (Eds.). (2000). Gendered nations: Nationalisms and gender order in the long nineteenth century. Oxford & New York: Berg.
- Daley, C., & Nolan, M. (Eds.). (1994). Suffrage and beyond: International feminist perspectives. New York: New York University Press.
- Greenspan, K. (1994). The timetables of women's history: A chronology of the most important people and events in women's history. New York: Simon and Schuster.
- Jayawardena, K. (1986). Feminism and nationalism in the third world. London/New Delphi: Zed Books.
- Jayawardena, K. (1995). The white woman's other burden: Western women and South Asia during British rule. New York/London: Routledge.
- Midgley, C. (1998). Gender and imperialism. Manchester: Manchester University Press.
- Miles, R. (1988). The women's history of the world. London: Penguin Group.
- Offen, K., Pierson, R. R., & Rendall, J. (Eds.). (1991). Writing women's history: International perspectives. Bloomington & Indianapolis: Indiana University Press.
- Pierson, R. R., & Chaudhuri, N. (1998). Nation, empire, colony: Historicizing gender and race. Bloomington & Indianapolis: Indiana University Press.
- Seager, J., & Olson, A. (1986). Women in the world: An international atlas. London & Sydney: Pan Books.
- Sinha, M. (1995). Colonial masculinity: The 'manly Englishman' and the 'effeminate Bengali.' Manchester: Manchester University Press.
- Sivard, R. L. (1985). Women—A world survey. Washington, DC: World Priorities.
- Sogner, S. (Ed.). (2001). Making sense of global history. Oslo: Universitetsforlaget.
- Stearns, P. N. (2000). Gender in world history. London & New York: Routledge.
- Wiesner, M. E., Wheeler, W. B., Doeringer, F. M., & Curtis, K. R. (2002). Discovering the global past: A look at the evidence (2nd ed). Boston & New York: Houghton Mifflin.
- Wiesener-Hanks, M. E. (2001). Gender in history. Oxford, UK: Blackwell Publishers, Inc.



The history of men's opposition to women's emancipation is more interesting perhaps than the story of that emancipation itself. • VIRGINIA WOOLF (1882–1941)

# Women's Emancipation Movements

uring the nineteenth and twentieth centuries women's emancipation movements, whether they were called the "woman question," "women's rights," or "feminism," were based on challenging the Western family economy in which the primary role of women is that of wife and mother, with waged work being a secondary role. Because people saw the domestic sphere as primary, women's work outside the home was undervalued and undercompensated. This distinction caused male domination of the political system with little hope of a reorientation of women's position in society. During the past two centuries women (and a number of men) worked to change this system politically, economically, and socially with varying degrees of success. They rarely took race and class into account, and people usually had an unacknowledged view of universalism toward women in other parts of the world. That is, the position of Euro-American feminists was that all women have the same oppression to overthrow and that common tactics will be useful in all circumstances.

Today students of women's lives recognize that geography is a factor. Although many feminists claim a universal theory of injustice and advocate a universal platform of change, their experience is limited to industrialized and democratic nations. Areas of the world that have experienced long histories of colonization or that have operated under forms of socialist, collective political systems present radically different challenges to women and call for varying approaches to change. For these reasons the term *women's movements* (plural) is more appropriate for the twenty-first century. The plural movements acknowledges the validity of dissimilar approaches, and the plural women's rather than woman recognizes that not all women face the same issues in widely divergent geographical areas. The elimination of the word *rights* is a nod to those cultures that do not see adversarial positions as desirable in finding solutions. Women's movements reflect the different histories, cultures, and political systems of people who have a gender in common but perhaps little else.

#### The Western Perspective: Britain and the United States

During the nineteenth century, suffrage (the right to vote) received the most emphasis among women's rights groups, but many middle-class women also saw social reform as their defining characteristic. With the rapid urbanization caused by industrial changes, the middle class grew in influence; women asserted their participation by addressing the miseries caused by the new orientations of society and wished to influence legal reforms by exercising the vote.

In addition to working for suffrage and engaging in good works, women during the nineteenth century on both sides of the Atlantic Ocean were interested in the very nature of womanhood. They debated fiercely what makes women different than men, and they discussed what all women desire. They also assumed that women of all classes and races are the same and that gender alone is the overriding difference in social constructions.

Women's concerns were much the same in both countries with minor exceptions. Women in the United States tended to claim some moral superiority because the United States was more democratic and equitable than Britain, but British reformers tartly pointed to the existence of slavery in many U.S. states.

By 1924 both groups had achieved suffrage (although women under age thirty did not gain the vote in Britain until 1928), opened employment for many women, and amended the most oppressive marriage laws. At this point many feminist groups turned to public health issues, especially birth control and expanded legal rights for women. No single issue, however, emerged to unite all women as suffrage had. Women seemed to be disappointed with the goals achieved and confused about future goals.

Neither country was more radical or more effective. The major discouragements to women seemed to stem from the absence of change after women were granted the vote. The majority of women in both countries seemingly were not won over to reformist or radical platforms in women's issues. Despite changes in the law, men did not accept women as political and economic equals. The biggest disappointments for women were in the inability of feminist groups to redress the inequalities in marriage.

The drawbacks inherent in legal changes were clear when the Equal Rights Amendment failed to pass in the United States in 1923 and again during the last quarter of the twentieth century. The unlimited optimism of the Victorian era was squelched by the inability to achieve equal rights in the legal arena.

#### **Political Variations:** Latin America

Although Latin America is close to the United States in geographical terms, the differences in political, racial, and economic structures have influenced the development of different sorts of feminist concerns. In Latin America women's movements cannot be separated from the context of military authoritarianism and the struggle toward political freedom.

Many people do not realize that women in Latin American nations have been active in political movements in the past, and often those people who study Latin American politics discount the interaction of women with politics, but it was historically important.

Feminist newspapers played an important role in disseminating ideas as long ago as the nineteenth century in Brazil. Since the mid-twentieth century urban life has provided a backdrop for networks of neighborhood women agitating for better services and lower consumer prices. Women participated in strikes and joined political parties even before they had right to vote, which came much later than in the United States or in Britain; Ecuador was the first Latin American nation to grant women's suffrage in 1929, although it did not possess a liberal democratic tradition, and Colombia was the last Latin American nation to grant women's suffrage in 1957. The suffrage movement in Latin America produced uninspiring results. As in the West, it was led mainly by middle-class women, and it aimed to produce reform rather than radical social changes. Women's suffrage did not cause a significant change in Latin American societies in part because women who did vote supported the status quo and were subservient to the politically conservative Catholic Church. No large-scale shift in attitudes took place in part because no concerted effort took place to join economic and educational change for women with the right to vote.

Because suffrage came so late and because it failed to institute real change in women's lives in Latin America, few people would have predicted the emergence during the 1970s of women's movements that were important in destabilizing military regimes. In addition to agitating politically, women's human rights groups, feminist groups, and organizations of poor urban women began to cooperate.

In Argentina, for example, women who previously had never involved themselves in politics and did not define themselves as feminists stepped onto the political stage to protest the loss of their husbands and family members, known as "the Disappeared"—people whom military regimes regarded as enemies. The attention that the women's testimony received from the press around the world affected military rule.

Other feminist groups were formed by women from leftist parties who were frustrated by the failure of the left to take women's issues seriously. They agitated for women's issues as well as for the end of military dictatorships.

By the late 1980s the most striking aspects of the women's movements in Latin America were the contributions the movements made in overthrowing military dictatorships and in reconstructing civil society. By the end of the twentieth century this experience in cooperation led many people to concentrate on issues of class and race; poor women developed the organizational skills to combat sharp cutbacks in state spending, and women's demonstrations forced political leaders to change course.

#### Postcolonialism and Culture: South Asia

South Asia shows that social justice and equality in family life cannot be culture free. Unlike women's movements in Euro-America, women's movements in India and sur-



The practice of sati (widow burning) in India has been controversial since the time of British rule. This photo is of a memorial for a sati in a grove.

inists believed that an independent nation would naturally bring with it equal opportunities for women. The decades after independence have demonstrated that the situation is far more complex, not least because women do not always share the same goals. Whatever the goals, south Asian feminists must maintain a clear distinction between themselves and Western feminists. This distinction is the only way to deflect accusations of sympathies with a colonial and imperial past.

rounding countries have to negotiate ardent nationalism, divergent religious practices, secularism, and polarized political views to present an agenda directed toward change in women's lives.

In addition to confronting a multilingual and multicaste society, reformers can appear to oppose ancient practices. The complexity of a postcolonial society includes the danger that a platform that advocates modernization can be construed as conflicting with tradition. Reform that advocates the equal rights of women can be manipulated into appearing to be linked with the views held by the former colonial power.

In addition to confronting suspicion of reform, advocates of women's rights in south Asia must confront the tensions among major religions that have sharply conflicting positions. For example, Hindu traditionalists have supported suttee (immolation of widows on their husbands' funeral pyres) in the face of feminist opposition. In the same vein Sikh extremists have continued to deny inheritance rights to women, and Muslims have resisted the granting of maintenance to divorced wives. All groups are suspicious of efforts by women to initiate reform and tend to oppose any reform as an erosion of religious tradition and power.

South Asian feminists face many complexities beyond simple changes in policy. Before independence many fem-

#### Stereotypes and Diversity: Africa

The colonial past also influences many aspects of the present in Africa, including the perceptions of African women. People in the West often perceive of African women as victims or as ignorant simpletons who cannot manage new technologies, as victims of oppression rather than as agents of change. No typical African woman exists, of course, and this simplistic perception of a whole continent of women is misleading and counterproductive.

The largest difference between African women and other women in the world is that African women are frequently the primary economic providers for their households as farmers and traders. This complicated power structure challenges Western understandings of marriage and households as partnerships in which men are the main providers, and household funds are pooled. When women challenge the web of social relationships, as in south Asia, opponents appeal to custom and tradition as against "colonial" influences.

The education of girls is often an issue between advocates of gender equality and the resident power structure in Africa. Schools both strengthen social values about femininity and reinforce domesticity in girls. For example,

# Division of Labor in Subsistence and Technology Activities

Anthropological studies of cultures over time and around the world show that in nearly all societies there is a clear division of labor based on sex. Men predominate in certain activities and women in certain activities, and there is typically little sharing of the work involved in these activities. The following list shows the division of labor for basic subsistence and technological activities.

MALES MAINLY

FEMALES MAINLY

NEITHER PREDOMINATES

Hunting Trapping Gathering wild plants

Agriculture

Milking

Herding

Preparing drinks Dairy production

Fishing

Food reparation

Collecting honey Working the soil

Cooking Preserving

Butchering

Spinning

Mining **Smelting**  Weaving

Metal working

Basketry

Mat making

Lumbering

Clothes making

Carpentry

Working stone, shell, bone

Pottery making Hide preparation

House building

Net Making

Rope Making

Source: Levinson, D. and M. J. Malone. (1980). Toward explaining human culture (p. 272). New Haven: HRAF Press.

influences, their husbands make most of the decisions that affect their lives. More education might mean less control over one's life. No single generalization is possible. African women are usually portrayed as a powerless

group subject to poverty and ignorance, in contrast to Western women, who are portrayed as educated, modern, and free to make their own choices. These portrayals often lead to programs that reinforce patriarchal ideology and inequalities. African women have access to programs that stress women's health and reproductive issues. These programs are useful, but emphasis on such issues recognizes unequal power relations in the family but does not address ways to remove gender stereotypes.

People in Africa should address women's problems in a multifaceted way. Local women need support from

nutrition education programs focus on how meager resources can be used to greatest effect, but if girls were encouraged to understand the causes of food scarcity, they might challenge policy. African governments frequently point to great improvements in education for girls and women by publishing statistics reflecting a strong commitment in education. Interpreting data published by governments is problematic, however, because statistics are notoriously unreliable in the Third World. Statistics often create the illusion of precision and certainty, but that illusion serves political ends by projecting a positive image while obscuring political indifference.

Even those African girls who are well educated often are not able to translate schooling into self-determination. Professional women sometimes find that because of social grassroots movements as well as recognition from international groups. African women are rarely asked to help design programs and strategies because standards for evaluation are frequently projections of Western analyses and models. African women must be asked to project their own goals for their own futures; they should be allowed to trust their own insights as the basis for resolving issues of gender equality.

#### Socialism and the Power of the State

International politics as well as historical events often affect attitudes toward women today. Countries that have undergone radical political change demonstrate the interaction of the personal and the political. The rapid disintegration of a socialist or Communist political system does not mirror a parallel change in gender relations.

In socialist societies the view of women reflects that of the German political philosopher Karl Marx and the German socialist Friedrich Engels; that is, the subordination of women is just another aspect of class oppression. Engels believed that with the abolition of private property and the integration of women into work, women would gain economic independence and equality. The flaw in this construction is that male control of female sexuality and inheritance predates the existence of the bourgeois family and industrialization. In reality, in socialist societies the male political leadership often had much the same view of the role of women as did their bourgeois counterparts.

The notion of a large socialist family was quickly established as a desirable goal, and so abortion was abolished in the Soviet Union in 1936. The state encouraged women to remain primarily responsible for child care as well as to accept employment in the public arena. This Soviet model of women's dual role was quickly adopted as the basis of state policy in eastern Europe, and the needs of the state took precedence over those of women. Because women were primarily responsible for activities in the private sphere, they frequently received blame for social problems such as juvenile crime and alcoholism, which were not addressed by the state.

Under the socialist system radical measures were implemented on maternity leave and child care, but they were not progressive because parenthood was seen as the exclusive purview of women. Because of their heavy domestic duties, women were increasingly displaced in labor and political arenas. When we see this from a gendered perspective, this is not true reform.

These gender stereotypes and inequalities remained in effect during the postrevolutionary period, but little attention is given to this area because the greatest attention is given to the economic reforms. Just as the socialist system influenced by Marx and Engels did not bring true equality for women, we have no reason to suppose that a free market economy and democratic elections will change male dominance and female subordination. No single women's movement has emerged in eastern Europe or in the nations of the former Soviet Union. The millions of ethnically and regionally disparate women would be unlikely to identify with a single movement, and little assistance is offered by the rest of the world, which is focused on political and economic issues.

## Culture and Change: China

China presents an interesting amalgam of the gendered views of the socialist state but with distinctive regional and social peculiarities. Traditionally people in China viewed women as having a passive role in society, and this view was further complicated by the term feminist. People viewed feminism as a Western concept, hence a bourgeois concept to be avoided. The first women's emancipation movement in China came about as a result of state-initiated policy. In 1949, with the establishment of the People's Republic of China, the new socialist Chinese government decided to prohibit such oppressive customs as the binding of women's feet and prostitution. The official policy was to advocate full women's employment. Women were given the rights to education, the vote, and full employment. Because jobs were assigned, however, women were frequently channeled into inferior or powerless positions. This fact was not recognized because women's rights were seen as having been achieved through the efforts of the state rather than through the efforts of women themselves.

As was the case in the former Soviet Union, the People's Republic of China shaped gender relationships to suit the interests of central policy. Although massive changes were introduced during the 1950s, during the Cultural Revolution (1966–1976) the use of oppositional terms such as right-wrong, correct-incorrect, and socialist-bourgeois served to outline what was acceptable. No organization of women working for change could exist because under the rule of the Cultural Revolution, women already had equality.

Despite legislation, a large gap remained between women's legal status and their social status. Gender issues affected power relations between women and men in that, as in the former Soviet nations, the idea that women are mainly responsible for standards of morality and family order was presented as "scientific fact." This idea that nature subjects women to lives dominated by reproductive concerns permeates Chinese approaches to education and employment. At the same time, the state is not a gender-neutral domain of power. More than any other Chinese state activity, the imposition of family planning that allowed only one child per family has been represented in the United States, especially during the Reagan-Bush era, as the quintessence of Communist oppression.

Recent movements toward privatization and a market economy have brought no improvement in women's autonomy in China. When privatization began in 1977, the idea that emancipation came not from individual efforts but rather from the state remained firmly in place. Further difficulties were introduced with the dissolution of the planned economy; now women have more difficulty in getting jobs because competition favors men, and women must resign when they have a child.

The experiences of the Fourth World Conference on Women held in Beijing in 1995 provide a lesson in the cultural differences in women's movements. The Chinese women's movement that emerged from the Fourth World Conference is characterized by groups who are interested

Women warriors are the exception in human history. These three German women were found operating machine guns and captured by American troops in World War I.

in promoting social change rather than depending on the Chinese state to improve the conditions of women. However, the groups and their tactics are interesting reflections of the Chinese approach. No mass membership groups with demonstrations and organized displays exist as in the West, but rather the Chinese movement focuses more on service and voluntary work. Many people concentrate on scholarly work in women's studies centers at universities. However, such groups are careful not to impinge upon state authority but instead to provide assistance to women or to increase knowledge. They concentrate on issues that are not addressed by the state. In this way the state recognizes that certain types of social movements are not a threat to its power.

The women's groups present issues of particular interest such as reproductive health, domestic violence, and sexual harassment as being global in nature. This presentation removes any critical tone that could be applied to the Chinese power structure, and so the power structure is more willing to tolerate steps to improve conditions in these areas. Work by women on reforms may be even beneficial to the state because the state is unwilling to pursue certain activities.

This peculiarly Chinese resolution of the dilemma of a women's movement provides a counterexample to the stereotype of a rigid, inflexible Chinese Communist regime. Chinese women are able to work toward reform



# "Ain't I a Woman?": Sojourner Truth's Speech Delivered at the Women's Rights Convention in Akron, Ohio, in December, 1851

Well, children, where there is so much racket there must be something out of kilter. I think that 'twixt the negroes of the South and the women at the North, all talking about rights, the white men will be in a fix pretty soon. But what's all this here talking about?

That man over there says that women need to be helped into carriages, and lifted over ditches, and to have the best place everywhere. Nobody ever helps me into carriages, or over mud-puddles, or gives me any best place! And ain't I a woman? Look at me! Look at my arm! I have ploughed and planted, and gathered into barns, and no man could head me! And ain't I a woman? I could work as much and eat as much as a man — when I could get it — and bear the lash as well! And ain't I a woman? I have borne thirteen children, and seen most all sold off to slavery, and when I cried out with my mother's grief, none but Jesus heard me! And ain't I a woman?

Then they talk about this thing in the head; what's this they call it? [member of audience whispers, "intellect" That's it, honey. What's that got to do with women's rights or negroes' rights? If my cup won't hold but a pint, and yours holds a quart, wouldn't you be mean not to let me have my little half measure full?

Then that little man in black there, he says women can't have as much rights as men, 'cause Christ wasn't a woman! Where did your Christ come from? Where did your Christ come from? From God and a woman! Man had nothing to do with Him.

If the first woman God ever made was strong enough to turn the world upside down all alone, these women together ought to be able to turn it back, and get it right side up again! And now they is asking to do it, the men better let them.

Obliged to you for hearing me, and now old Sojourner ain't got nothing more to say.

and still appear cooperative rather than confrontational. The use of negotiation shows that gender attitudes and methods of reform are deeply rooted in culture and cannot be viewed as universal in nature.

#### **Gender Past and Future**

Women around the globe are divided by their histories, by their class or income levels, by the political basis of their nation, by their religious beliefs, and by their social expectations. The one fundamental similarity, however, in each culture is that gender provides a basis for discrimination and deprivation. We cannot prescribe one plan of action to improve the lot of women everywhere, but the recognition that gender is a crucial aspect in the consideration of political and economic reform is an essential beginning. Solutions to gender inequities are best constructed by women working together within a culture to negotiate change that is acceptable to the dominant power structure rather than presenting a universal program that may cause unintended results. Women's emancipation movements are global in scope because gender disparities occur everywhere, but the problems suffered and solutions undertaken vary widely. Gender may be universal, but no universal solution to gender inequities exists.

Cynthia Curran

See also Women's and Gender History; Women's Reproductive Rights Movements

## **Further Reading**

Bloch, M., Beoku-Betts, J. A., & Tabachnick, B. R. (Eds.). (1998). Women and education in sub-Saharan Africa: Power, opportunities, and constraints. Boulder, CO: Lynne Rienner.

Bolt, C. (1995). Feminist ferment: "The woman question" in the USA and England. London: UCL Press.

Bryceson, D. F. (Ed.). (1995). Women wielding the hoe: Lessons from rural *Africa for feminist theory and development practice.* Oxford, UK: Berg. Chaudhuri, M. (1993). Indian women's movement: Reform and revival.

London: Sangam Books.

Connolly, L. (2002). The Irish women's movement: From revolution to devolution. New York: Palgrave.

Evans, H. (1997). Women and sexuality in China: Dominant discourses of female sexuality and gender since 1949. Cambridge, UK: Polity Press.

Gilmartin, C. K., Hershatter, G., Rofel, L., & White, T. (Eds.). (1994). Engendering China: Women, culture, and the state. Cambridge, MA: Harvard University Press.

Hahner, J. E. (1990). Emancipating the female sex: The struggle for women's rights in Brazil, 1850-1940. Durham, NC: Duke University Press.

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. • Margaret Mead (1901–1978)

Hodgson, D. L., & McCurdy, S. A. (Eds.). (2001). "Wicked" women and  $the\ reconfiguration\ of\ gender\ in\ Africa.\ Portsmouth,\ NH:\ Heinemann.$ Jaquette, J. S. (Ed.). (1989). The women's movement in Latin America: Feminism and the transition to democracy. Boston: Unwin Hyman.

Jaquette, J. S. (Ed.). (1994). The women's movement in Latin America: Participation and democracy. Boulder, CO: Westview Press.

Kumar, R. (1993). The history of doing: An illustrated account of movements for women's rights and feminism in India 1800–1990. London:

Rai, S., Pilkington, H., & Phizacklea, A. (Eds.). (1992). Women in the face of change: The Soviet Union, eastern Europe and China. London: Routledge.

Wesoky, S. (2002). Chinese feminism faces globalization. New York: Routledge.

# Women's Reproductive-**Rights Movements**

**▼**n 1968 the United Nations International Human Rights Conference overwhelmingly declared that reproductive rights should be acknowledged as basic human rights. This conclusion was based on the rationale that a woman's right to control her own body is an expression of free will. The reality is that for women in many countries, reproductive choice is in the hands of husbands or governments. What should be a woman's most private experience is in fact controlled and shaped by economic, political, and social institutions. Therefore, feminists around the world, irrespective of their ideological and political differences, are united in their desire to see women granted reproductive rights. It is an essential precondition for women's full participation in society.

#### **What Are** Reproductive Rights?

Reproductive rights comprise the right to decide timing and spacing of children, the right to access to gynecological and contraceptive information, the freedom to choose from different birth control methods, and the right to terminate a pregnancy if desired. It is an important feminist agenda because these rights are irrevocably entwined with women's political, economic, and social status in society. In the United States and Western Europe, where women are able to control their own fertility, they enjoy, relatively speaking, a higher status in society, whereas in some countries in the Third World, such as Bangladesh, Nepal, or the Central African Republic, where women are denied access to basic information, they are in a disadvantageous state economically, socially, and politically. Lack of information results in uninformed wives and mothers, increased instances of reproductive illnesses, and high maternal and infant mortality rates. Therefore, feminists are united in the view that women around the world should be able to control their own bodies and be granted the right to choose contraceptives and make informed choices about terminating a pregnancy.

#### The Early Years of Reproductive Choice

For centuries women across the globe have used vaginal pessaries, herbal douches, the rhythm method, extended breast feeding, and herbal concoctions to control their fertility and limit births. In strictly patriarchal countries, where boys were preferred to girls, female infanticide was practiced to limit the female population or maintain a desired sex ratio. Trying to restrict fertility is not new; what is new is the concerted effort by feminists to grant women the right to control the decision of whether or not to have children as well as the frequency and number of children, as this has a great impact on their bodies and lives. Reproductive choice, feminists argue, should be in the hands of women and not husbands or governments.

It was in the midst of the momentous changes fostered by the Industrial Revolution of 1760s that the idea of granting women reproductive rights first surfaced. As increased numbers of women were employed in factories, where pregnancy and childbirth would have an adverse effect on their employability, they turned to unreliable birth control and unsafe abortion methods in an effort to control their fertility. In the United States and Great Britain, the common perception was that abortion was not a crime until "quickening" (when the fetus begins moving). The Catholic Church at this time did not have a strong stand on the question of abortion.

However, in the 1870s, as the use of birth control and abortions grew, three groups—male medical practitioners, industrialists, and eugenicists—coalesced and called for outlawing abortion and establishing considerable male control over women's fertility. Male physicians wanted to monopolize women's health by encouraging the rapid medicalization of childbirth. This resulted in marginalizing female midwives. Industrialists wanted to increase their productivity and profits by employing more women and children. Eugenicists argued for the rapid demographic growth of peoples of European descent at the expense of "others." The United States government responded with the Comstock Act of 1873, which restricted distribution of any material considered obscene. Information on abortion and birth control came under the purview of this restrictive law. As a consequence, women were denied gynecological and contraceptive information.

#### From 1900 to the 1950s

The beginnings of the twentieth century coincided with the first battle for reproductive rights in the form of demands for access to gynecological and contraceptive information. U.S. activists such as Margaret Sanger (1879–1966) and the socialist Emma Goldman (1869– 1940) and British activists such as Marie Stopes (1880– 1938) held public forums to advocate that reproductive rights were crucial to improving women's status in society. They argued that working-class and poor women be allowed access to information. Despite being publicly ridiculed, harassed, and arrested under the Comstock Act, Sanger and Goldman successfully overturned the Act. Sanger founded the American Birth Control League, the forerunner of today's Planned Parenthood. In Great Britain, Marie Stopes continued to campaign for more government funding to open clinics that would provide women with information that would help them to make informed choices.

However, efforts to open birth control clinics both in the United States and Europe met with considerable resistance from the government as well as the Church, especially during the post-World War I years. A drastic decline in birth rates prompted the United States and most European governments to attempt to control women's fertility by encouraging births. Women were rewarded for producing many children, and indeed, during the decades following World War I, women's fertility was linked to national vitality and prestige. Most European governments introduced comprehensive welfare programs to aid and encourage parenthood. At the same time, eugenicists lobbied hard to influence Western governments to control fertility by restricting the birthrate among groups deemed "socially inappropriate." Abortions and involuntary sterilizations were performed clandestinely, often in unsanitary conditions, on women belonging to these groups.

#### **Abortion Rights**

The 1960s were a major watershed in the reproductiverights movement. Women on both sides of the Atlantic discovered feminist theories linking reproductive and sexual freedom to improving the quality of their lives. They began to question their traditional roles as wives and mothers and articulated their need to control their own bodies in order to be liberated. The invention of the birth control pill (approved by the U.S. Food and Drug Administration in 1960) was a major step in that direction, as it allowed women the freedom to be sexually active without the fear of becoming pregnant, if they so chose.

In the United States, the women's movement of the 1960s linked reproductive rights to political, social, and economic power for women in society. Feminists demanded easy access to contraceptive and gynecological information. They also exposed the hazardous conditions under which illegal abortions were performed, primarily on the poor and women of color. They stated that abortions were conducted without anesthesia and frequently in unsanitary conditions that seriously jeopardized the health of the mother.

## A Selection from Milestones by Sayyid Qutb

Sayyid Qutb (1906-1966) was one of the most influential thinkers in Islamic revivalism. In his Milestones he commented on women's roles in Western society.

If the family is the basis of the society, and the basis of the family is the division of labour between husband and wife, and the upbringing is the most important function of the family, then such a society is indeed civilised. In the Islamic system of life, this kind of a family provides the environment under which human values and morals develop and grow in the new generation; these values and morals cannot exist apart from the family unit. If, on the other hand, free sexual relationships and illegitimate children become the basis of a society, and if the relationship between man and woman is based on lust, passion and

impulse, and the division of work is not based on family responsibility and natural gifts; if woman's role is merely to be attractive, sexy and flirtatious, and if woman is freed from her basic responsibility of bringing up children; and if, on her own or under social demand, she prefers to become a hostess or a stewardess in a hotel or ship or air company, thus using her ability for material productivity rather than the training of human beings, because material production is considered to be more important, more valuable and more honourable than the development of human character, then such a civilisation is "backward" from the human point of view, or "jahili" in Islamic terminology.

Source: Qutb, S. (1980). Milestones [Ma'alim fi'l Tariq] (p. 182). Beirut, Lebanon: The Holy Koran Publishing House. Retrieved April 17, 2003, from http://www. nmhschool.org/tthornton/mehistorydatabase/sayyid\_qutb\_on\_women.htm

Therefore, by 1970, the abortion issue emerged as a central issue in the women's reproductive-rights movement in the United States. While moderate and liberal feminists argued for reforms in outdated abortion laws, the radicals wanted nothing less than repeal of all abortion laws and the lifting of the government's and the medical establishment's control over abortion. Their slogan was "the personal is political," and they vehemently argued that all women, irrespective of race, ethnicity, and class, should have the right to control their bodies and to choose to have an abortion.

The increased politicization of the abortion issue affected public opinion. By 1970 more and more Americans believed that abortion was a private matter and that a woman should have the right to decide what was best for her. In 1973, the U.S. Supreme Court's Roe v. Wade legislation granted a woman and her doctor the right to choose an abortion within the first three months of pregnancy. This was an important step toward legalizing abortion, although the right to abortion continues to be contested in the United States to this day.

Following the example of the United States, women activists across the globe are lobbying to legalize abortion. According to the United Nations, around 46 percent of women live in countries such as Germany, India, Argentina, and Saudi Arabia, where abortion is available only under certain circumstances, such as when the pregnancy was caused by incest or rape or when either the mother's health or fetal health is impaired. Around 38 percent of women live in countries such as South Africa, Norway, Holland or the former Eastern European countries, where abortion is available upon request. In other countries, such as Chile, Malta, and Andorra, abortion is strictly forbidden.

#### Common **Birth Control Methods**

Making informed choices about birth control is another crucial focus of the reproductive-rights movement. Activists for women's reproductive rights argue that as it is the woman whose health is affected by pregnancy, a woman should be the one to make the decision regarding which birth control method to adopt. In many countries women's birth control options are not only limited, but governments, pharmaceutical companies, and husbands often impose their views. Generally speaking, there are four birth control methods: barrier methods, hormonal methods, mechanical methods, and sterilization. The first method comprises diaphragms, condoms, and the cervical cap. These contraceptives provide effective means of preventing pregnancy, and the condom has the added benefit of protecting Cautious, careful people, always casting about to preserve their reputation and social standing, never can bring about reform. • Susan Brownell Anthony (1820–1906)

against sexually transmitted diseases. Hormonal methods consist of birth control pills, Norplant, and Depo-Provera. The interuterine device (IUD) is a mechanical method of birth control that is believed to work by preventing an egg from implanting in the uterine wall. There are also interuterine systems, which are essentially IUDs that dispense the hormones that prevent pregnancy. Sterilization involves a procedure called tubal ligation, in which the fallopian tubes are tied, thereby preventing eggs and sperm from meeting, and, consequently, pregnancy. Many governments use tubal ligations to forcibly restrict population growth among certain groups.

# Population Control Programs

In the past decade, the reproductive-rights movement has focused on population control programs. Despite the existence of the UN Convention on the Elimination of All Forums of Discrimination Against Women (CEDAW), which admonishes governments against implementing aggressive population control programs to promote national interests, most countries in the developing world have such programs, often at the expense of women's health. Governments may be either pro-natalist or antinatalist. Feminists are critical of both groups, as both restrict women's choices, though with opposite goals.

Pro-natalist governments want to increase their nations population; they typically outlaw abortion and contraception and seek to gain complete control over women's fertility. Prolonged warfare, loss in productivity, or even, in some instances, increasing numbers of people of racial, ethnic, or religious groups that the government considers undesirable have all been known to provoke a pronatalist reaction. For example, in 1966 the former Romanian dictator Nicolae Ceausecu banned abortion and encouraged women to produce as many children as possible because he wanted to increase the national productivity.

Women activists also criticize anti-natalist governments that implement coercive and selective policies. Communist China's one-child policy to restrict population growth is an example of coercive anti-natalism. In such cases the government's desire to control population growth often comes at the expense of women's health. The United States was guilty of anti-natalism in the early 1950s and 1960s, when federal funds were used to perform forced sterilization on Chicano, black, Native American, and Puerto Rican women.

It is paradoxical that while women are responsible for producing the future generations, their right to control their own bodies is limited by public and private forces. Reproductive rights, with all their ramifications, are a reflection and determinant of women's equality in society.

Chandrika Paul

See also Contraception and Birth Control

#### **Further Reading**

Dixon-Mueller, R. (1993). Population policy and women's rights: Transforming reproductive choice. Westport, CT: Praeger.

Hartmann, B. (1987). Reproductive rights and reproductive wrongs. New York: Harper & Row.

Hartmann, B. (1995). Reproductive rights and wrongs: The global politics of population control. Boston: South End Press.

Jacobson, J. L. (1992). Women's reproductive health: The silent emergency. New Frontiers in Education, 22, 1–54.

# Women's Suffrage Movements

Women around the world have fought for the right to vote (suffrage) for centuries. Women have sought to participate actively in political life and to have a voice in shaping the contours of their societies. By the 1990s the majority of women throughout the world had gained the right to vote in local and national elections, and in many countries have achieved high office as elected politicians. In 1995, among the few countries in which women still did not have the right to vote were Bahrain, Brunei, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

#### Susan B. Anthony.

#### Background

During the nineteenth century, women in many parts of the world began working to achieve such personal liberties as the right to hold property and the right to divorce, with the goal being to obtain protection under the law and legal recourse in matters related to their daily lives. By the midnineteenth century, women's movements became increasingly political, and the centerpiece of the various movements was women's suffrage. From the latter part of the nineteenth century through the twentieth century women made great strides in obtaining human and political rights, including voting rights. New Zealand (1893), Australia (1902), Finland (1906), Norway (1913), Great Britain (1918), Russia (1917), Germany (1919), and the United States (1919) were among the first nations to grant women the vote.

During the early years of the various women's movements, thousands of women marched through the streets making themselves heard, flooded the legislatures with petitions for the vote, and continually appealed to male politicians to support the female franchise. Historians, political scientists, and sociologists have argued that cultural transformations brought about through rapid industrialization, war, and other social upheavals contributed to shifts in political participation and the shaping of a political identity for women globally. Some have argued that nations that have undergone restructuring due to decolonization or war have become more progressive, with the most democratic of these nations gradually implementing more egalitarian policies in government that recognize women's value as voters and political leaders.

#### Revolution and Suffrage

While over time women have been successful in gaining the vote, that right has been hard won. Although women organized for broader gender rights, the majority of the leaders of women's rights movements from World War I through the postcolonial period realized the franchise was necessary if they were to have power and promote positive change. In 1945, in post-World War II Japan, about 67 percent of the newly enfranchised women voters turned out to vote,

and by the 1970s tatakau onnatachi ("fighting women") were fighting against sexist laws, seeking wage equity, and establishing themselves as politically informed voters.

Women have often entered the suffrage arena through participating in national struggles for independence, as was the case for women in Egypt, Vietnam, and South Africa. In those countries, women and men worked together toward national independence, and in that context nationalism promoted women's suffrage and allowed for women's voting rights. For example in Egypt, the nationalists who worked toward building a modern nation-state independent of Great Britain saw improvements in women's restrictive lives as integral to their program. Feminist activists became the center of the anticolonial movement. Egyptian women began to push for women's rights, including the vote, in earnest after World War II, and liberal (male) nationalists supported the early efforts of women like Bahithat Al Badiya, who pushed a feminist political agenda that called for equality and opportunity for Egyptian women. However, by the 1950s Islamic traditionalists were mounting resistance to women's suffrage, and some of the liberal



nationalists made concessions to right-wing traditionalists. In spite of traditionalists' resistance, Egyptian women gained the vote in 1956, and during the same year a number of women became minor elected officials. In 1979, a presidential decree established that thirty seats in Egypt's parliament be reserved for women; the president also has the power to appoint a number of representatives, a proportion of whom must be women, to parliament. Unfortunately, an upsurge in Islamic fundamentalism has led to constitutional suppression of women's public and political space.

In Vietnam, like Egypt, women supported anticolonial revolutionaries during the pre-World War II era, and their struggles eventually led to the defeat of French military forces in 1954, though it was more than 20 vears before Vietnam, divided in 1954, was reunited under the Communists. In Communist Vietnam, socialist leadership paved the way for Vietnamese women's activism in political spaces. Women's newly formed public identities as warriors and liberators merged with their private identities as mothers and keepers of national heritage. Scholars have argued that social rev-

#### Elizabeth Cady Stanton.

olution has historically promoted change in class relations and in the relative power of the state. Histories of countries such as Vietnam, however, suggest that vast continuities between pre- and postrevolutionary societies remained intact. Although women were encouraged to participate in revolution, few have made use of their right to vote or hold political office after the reunification of the country in 1976. As Vietnamese nationalists gained power, they assumed traditional patriarchal power and dismissed women's revolutionary activities and political gains as part and parcel to the climate of national revolt; thus, as the generation of women who had participated in the revolution died out, so did women's hope for political rights.

In South Africa under apartheid, women have had to bear the burden of the double-edged sword of racism and sexism in gaining voting rights. White South African women won the vote in 1930, women of Asian or mixed ethnic extraction ("colored") gained the vote in 1984, and black South Africans did not receive the vote until 1994, after apartheid was dismantled. Through the 1950s blacks organized through the African National Congress (ANC), led by Nelson Mandela. Gertrude Shope, an ANC member and chair of one branch of the Federation of South African Women (FEDSAW), organized black women to fight for equality and voting rights. White political leaders acted quickly to suppress the ANC and other organizations; Mandela was imprisoned and Shope went into exile, where she became the secretary to the head of the ANC's Women's Section. During the 1970s resistance resurfaced; the numbers of protestors were larger and included women, who wanted to end the continuous oppression in their daily lives through the achieving of voting and political rights. In 1991, as apartheid was beginning to crumble, Shope was elected president of the ANC's Women's League. In South Africa's first free elections in 1994, approximately 25 percent of South Africa's legislative seats were won by women. Despite these gains, persistent poverty and social ills, most notably the AIDS epidemic, continue to negatively impact the lives of South Africa's women.

Unless	nless otherwise indicated, the date signifies the year		Ecuador*, Romania*
women were granted the right both to vote and to stand		1930	South Africa (Whites), Turkey (to vote)
for election. The countries listed below currently have a parliament or have had one at some point in their history.		1931	Chile*, Portugal*, Spain, Sri Lanka
		1932	Maldives, Thailand, Uruguay
1788	United States of America (to stand for election)	1934	Brazil, Cuba, Portugal*, Turkey (to stand election)
1893	New Zealand (to vote)	1935	Myanmar (to vote)
1902	Australia*	1937	Philippines
1906	Finland	1938	Bolivia*, Uzbekistan
1907	Norway (to stand for election)*	1938	El Salvador (to vote)
1913	Norway**	1941	Panama*
1915	Denmark, Iceland*	1942	Dominican Republic
1917	Canada (to vote)*, Netherlands (to stand for election)	1944 1945	Bulgaria, France, Jamaica Croatia, Guyana (to stand for election),
1918	Austria, Canada (to vote)*, Estonia, Georgia, Germany, Hungary, Ireland*, Kyrgyzstan, Latvia, Lithuania, Poland, Russian Federation, United Kingdom*	1946	Indonesia, Italy, Japan, Senegal, Slovenia Togo Cameroon, D.P.R. of Korea, Djibouti (to vote), Guatemala, Liberia, Myanmar (to
1919	Belarus, Belgium (to vote)*, Luxembourg, Netherlands (to vote), New Zealand (to stand for election), Sweden*, Ukraine		stand for election), Panama**, Romania* The F.Y.R. of Macedonia, Trinidad and Tobago, Venezuela, Vietnam, Yugoslavia
1920	Albania, Canada (to stand for election)*, Czech Republic, Iceland**, Slovakia,	1947	Argentina, Japan, Malta, Mexico (to vote Pakistan, Singapore
	United States of America (to vote)	1948	Belgium**, Israel, Niger, Republic of Kor
1921	Armenia, Azerbaijan, Belgium (to stand for election)*, Georgia, Sweden**	1949	Seychelles, Suriname  Bosnia and Herzegovina, Chile**, China
1924	Kazakhstan, Mongolia, Saint Lucia,		Costa Rica, Syrian Arab Republic (to voi
	Tajikistan	1950	Barbados, Canada (to vote)**, Haiti, Ind
1927	Turkmenistan	1951	Antigua and Barbuda, Dominica, Grena
1928	Ireland**, United Kingdom**		Nepal, Saint Kitts and Nevis, Saint Vince and the Grenadines

# Women's Suffrage in Europe and North America Today

Women from Europe and North America have had fewer difficulties than women from other parts of the world in obtaining the franchise, for reasons that include more liberal political policies in Europe and North America, less restrictive religious traditions, and women's emergence into the public sphere as wage earners. Although American and British women have been considered leaders in worldwide women's suffrage, women's political participation in the United States is rather lackluster, with just 55 percent voting in

1952	Bolivia**, Côte d'Ivoire, Greece, Lebanon	1970	Andorra (to vote), Democratic Republic of		
1953	Bhutan, Guyana (to vote), Mexico (to stand for election), Syrian Arab Republic**		the Congo (to stand for election), Yemen		
			(Arab Republic)		
1954	Belize, Colombia, Ghana	1971	Switzerland		
1955	Cambodia, Eritrea, Ethiopia, Honduras,	1972	Bangladesh		
	Nicaragua, Peru	1973	Andorra (to stand for election), Bahrain,		
1956	Benin, Comoros, Egypt, Gabon, Mali, Mau-		San Marino (to stand for election)		
	ritius, Somalia	1974	Jordan, Solomon Islands		
1957	Malaysia, Zimbabwe (to vote)**	1975	Angola, Cape Verde, Mozambique, Sao		
1958	Burkina Faso, Chad, Guinea, Lao P.D.R.,		Tome and Principe, Vanuatu		
	Nigeria (South)	1976	Portugal**		
1959	Madagascar, San Marino (to vote), Tunisia, United Republic of Tanzania	1977	Guinea Bissau		
		1978	Nigeria (North), Republic of Moldova,		
1960	Canada (to stand for election)**, Cyprus,		Zimbabwe (to stand for election)		
	Gambia, Tonga	1979	Marshall Islands, Micronesia (Fed. States),		
1961	Bahamas*, Burundi, El Salvador (to stand for election), Malawi, Mauritania, Paraguay, Rwanda, Sierra Leone		Palau		
		1980	Iraq, Vanuatu		
1962 1963	Algeria, Australia**, Monaco, Uganda, Zambia Afghanistan, Congo, Equatorial Guinea, Fiji, Iran (Islamic Republic of), Kenya, Morocco, Papua New Guinea (to stand for election)	1984	Liechtenstein, South Africa (Coloureds and		
			Indians)		
		1986	Central African Republic, Djibouti (to		
		4000	stand for election)		
		1989	Namibia		
		1990	Samoa		
1964	Bahamas**, Libyan Arab Jamahiriya, Papua	1993	Kazakhstan, Republic of Moldova		
	New Guinea (to vote), Sudan	1994	South Africa (Blacks)		
1965	Botswana, Lesotho	Women	men in Kuwait do not yet have the right to vote or to		
1967	Democratic Republic of the Congo (to vote),		stand for election. In the United Arab Emirates, where		
	Ecuador**, Kiribati, Tuvalu, Yemen (D.P. R.)	the Parliament is officially appointed, neither men nor			
1968	Nauru, Swaziland		women have the right to vote or to stand for election.		
			ject to conditions or restrictions ons or conditions lifted		

primary elections in 1992 and women holding just 17 percent of U.S. legislative seats. Among European nations Germany has a good track record, having granted women the vote in 1919 and with just over 73 percent of women voting by 1990 and 28 percent of legislative seats held by women.

#### Outlook for Women's Political Activism

The goal of most feminists in liberal-minded countries is to encourage women around the globe to participate in the voting process, to increase the number of women political officeholders, to create and pass laws that



protect women and children against violence, to make the public aware of gender oppression, and to further the mission of equality for all citizens. Given the dedication of women in even the harshest situations and the most repressive of societies to work toward those ends, we can expect further advances in the years to come.

Denise R. Johnson

# York: United Nations.

DorPete Press.

# **Further Reading**

Abu-Zayd, G. (n.d.). In Search of Political Power—Women in Parliament in Egypt, Jordan and Lebanon. Retrieved July 20, 2004, from http://www.idea.int/women/parl/studies1a.htm

Anderson, B. S. (2000). Joyous greetings: The first international women's movement, 1830–1860. Oxford, UK: Oxford University Press.

Brown, S. M. (2000). Women across cultures: A global perspective. Columbus. OH: McGraw-Hill

Carmody, D. L. (1989). Women and world religions. Upper Saddle River, NJ: Prentice Hall.

Chaftetz, N., & Dworkin, A. G. (1986). Female revolt: Women's movements in world and historical perspective. Totowa, NJ: Rowman & Allanheld Publishers.

Dahlerup, D. (1986). The new women's movement: Feminism and political power in the USA and Europe. London: Sage Publications.

Daley, C., & Nolan, M. (1994). Suffrage and beyond: International feminist perspectives. New York: New York University Press.

D' Amico, F., & Beckman, P. R. (1995). Women in world politics: An introduction. Westport, CT: Bergin & Garvey.

Davis, R. (1997). Women and power in Western democracies. Lincoln: University of Nebraska Press.

DeBeauvoir, S. (1952). The second sex. New York: Vintage Books.

Desai, N. (1988). A decade of women's movement in India. Bombay: Himalaya Publishing House.

Gelb, J. (1989). Feminism and politics. Berkeley and Los Angeles: University of California Press.

Henig, R., & Henig, S. (2000). Women and political power: Europe since 1945. London: Routledge.

Inglehart, R. (1990). Cultural shift in advanced industrial society. Princeton, NJ: Princeton University Press.

Kelly, R. (2001). Gender, globalization, and democratization. Lanham, MD: Rowman & Littlefield.

Meyer, M., & Prugl, E. (1999). Gender politics and global governance. Lanham, MD: Rowman & Littlefield.

Myakayaka-Manzini, M. (n.d.). Women empowered: Women in Parliament in South Africa. Retrieved July 20, 2004, from http://www.idea.int/women/parl/studies5a.htm

Nelson, B., & Chowdhury, N. (1994). Women and politics worldwide. New Haven, CT: Yale University Press.

Peters, J., & Wolper, A. (1995). Women's rights, human rights: International feminist perspectives. New York: Routledge.

Pharr, S. (1981). Political women in Japan. Berkeley and Los Angeles: University of California Press.

Rawkow, L., & Kramarae, C. (1990). The revolution in words: Righting women, 1868–1871. New York: Routledge.

# World Cities In History—Overview

Rinaldo, P. M. (1992). Trying to change the world. Briarcliff Manor, NY:

Rupp, L. J. (1997). World of women: The making of an international

Smith, B. G. (2000). Global feminisms since 1945. New York: Routledge. United Nations. (2000). The world's women: Trends and statistics. New

women's movement. Princeton, NJ: Princeton University Press.

Thich were the world cities of the ancient, classical, and modern era, and what was their role in organizing social life on earth? World history is sometimes viewed as the history of cities because urbanization has been coextensive with the portion of human experience commonly portraved in world histories—that is, the past five or six millennia. This is why the study of world cities and their interrelationships can offer useful insights not just into the growth of a central form of human organization, but also into world history itself. This overview focuses on three questions: (1) How do we define and identify world cities? (2) Over the entire time span of world history, which cities were world cities, and can they meaningfully be regarded as the centers of the world system of their time? and (3) What are the major outlines and trends in the system of world cities?

# What Is a "World City"?

World cities can be defined as cities of world importance, actually and potentially. The source of that importance might be either a city's size or its position in the functioning of the world system. Size will be reckoned principally in terms of population numbers (compared with other cities of that same era), and we will distinguish among world cities of the ancient, classical, and modern periods because over historical time cities have grown larger by orders of magnitude. World system position might, in the most obvious case, refer to a place in the global economy, either in a commercial role or a

productive capacity. For instance, the capitals of powerful or strategically important states and the military garrisons they might harbor will be politically important, and religious centers will attract interest and visitors from afar. There have also been cities noted for their cultural assets and the excellence of the learning they afford. Large cities have often been multifunctional; large populations, in turn, provide fertile soil for innovative enterprises. It is hard to find a single, dominant world city over the past several millennia, but we can identify sets of urban centers and examine their

form and composition and the connections among them (for example, were they imperial or nonimperial?).

In the present survey, world cities will be identified primarily by size, because in a survey of this scale, both spatial and temporal, it's not practicable to make an empirical, detailed, and documented assessment of world system position. For the ancient era (about 3000 to 1000 BCE) we will examine cities with settlements whose population may be estimated (for instance, on the basis of archaeologists' site reports) to be in excess of ten thousand; the population of most such cities are in the range of ten thousand to 100,000. For the classical era (1000 BCE to 1000 CE), we will look at urban centers with populations of 100,000 or more, most typically in the range of 100,000 to 1 million. For the modern era (since 1000 CE) we focus principally on cities with populations in the 1 to 10 million range.

This overview draws its empirical data from two quantitative censuses of urban growth and contextualizes that data for several eras and regions. Until quite recently the prevailing view held that a statistical description of urbanization prior to about 1800 was an impossibility. However, new sources have opened up-for instance, in archaeology and social and economic history—that make that task less difficult. The pioneering effort in this regard



This portion of a large Japanese print shows people using a variety of transportation modes.

has been Tertius Chandler's Four Thousand Years of Urban Growth (1987), a product of decades of research that brought together a mass of material on cities between 2250 BCE and 1975 CE. Complementing and extending that work has been George Modelski's World Cities: -3000 to 2000 (2003), which provides fuller coverage for the first four millennia but deals more lightly with the data from 1000 CE onward; it also reports on world trends in urbanization.

## The Ancient World

The first city system emerged in Southern Mesopotamia in the fourth millennium BCE in what archeologist Vere Gordon Childe dubbed the "Urban Revolution." This group of urban settlements centered on Uruk, clearly a major cult center; Uruk was probably also a focus of political activities and was almost certainly the center of regional exchanges whose reach extended from Iran in the east, to the upper Euphrates in the north, and to Egypt in the west. By 3000 BCE we find here (and nowhere else) some half-dozen units that satisfy our criteria for an incipient world city system. Uruk is at that time the largest among them and the largest city in the world at that time, with a population possibly reaching forty thousand. And this is just one reason for calling it the first world city, because we also know, from archaeological and literary evidence, that Uruk was also the likely locus of the invention of writing and of calendars, innovations that proved to be of epochal significance.

This was the Uruk nucleus of an emerging system of world cities. The first basic trend we can identify is the emergence, by the mid-third millennium BCE, of a viable and productive center in Sumer, the heartland of cities, then organized in the form of some two dozen autonomous city-states. An increasingly costly competition for regional leadership animated those states (for example,

by about 2300 BCE, the competition between Umma and Lagash), which made it possible for Sargon of Akkad, from outside the Land of Sumer, to step in and subdue them. The reign of Akkad and Sumer came and went, and was followed by a native dynasty based on Ur. As late as about 2000 BCE something of a numerical parity existed between Sumer and non-Sumer cities, but a short time later the former land of cities completely dropped out of sight. By contrast, important cities rose in Egypt (Memphis, Thebes, and Heliopolis), in north Mesopotamia (Mari), and in the Indus Valley (Mohenjo-Daro and Harappa).

The second basic trend was the experience of dispersal, or more precisely, the spread of urban practices throughout Eurasia that coincided with what in several areas were described as "Dark Ages"—for instance, in Sumer, in the Harappan region, and in post-Mycenean Greece. By the end of the ancient era (and the Bronze age), three of the four major regions of the "Old World" had been fertilized by the Urban Revolution: West Asia (for instance, Babylon), the Mediterranean (Mycenae), and East Asia (Yin, near Anyang, a major Shang capital). The less-than-successful experiments in the Indus Valley, in the Ukraine, and even in Peru would ultimately bear fruit, too. This dispersal was in fact a form of redistribu-

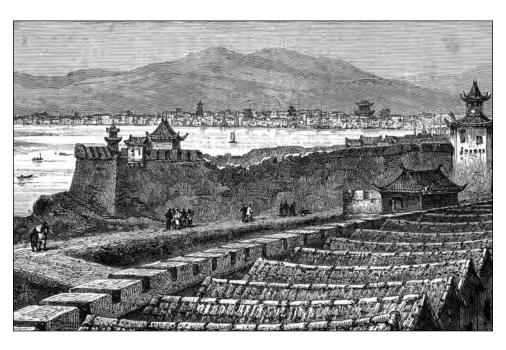
tion, because while Sumer lost cities and was virtually deurbanized, urbanism rose elsewhere and the number of world cities remained about the same as it had been a millennium earlier (twenty-two in 2000 BCE became twenty-three

Cities have often been protected by walls of all types of shapes and sizes and materials. This drawing shows the wall outside a Chinese city in the late nineteenth century. in 1200 BCE). In other words, the story of the ancient era has rapid urban expansion at the center in its first half, followed by deceleration and dispersal in the second.

#### The Classical World

The principal tendency of the classical era was the rapid formation and subsequent consolidation of strongly regional but also interconnected urban systems in the four main regions of Eurasia: East Asia, South Asia, the Mediterranean, and West Asia. A separate development also occurred in the Americas. In the first three of these regions we observe a thriving system of independent citystates, which then succumbs to imperial rule; but in West Asia, the sequence is reversed, and in Mesoamerica, the Mayan system of city-states collapses by itself into incoherence.

In East Asia, virtually all the principal urban growth occurred in China. Haoqing (near Xi'an) was the Western Zhou capital and ceremonial center that bridged the ancient and classical periods. After its destruction in 771 BCE, the political center shifted to Luoyang, and in this Eastern Zhou era that followed, urbanization took off with considerable flourish. One report credits ninety-one cities as likely founded before 771 BCE, the number





rising to 466 in the spring and autumn of Eastern Zhou. City-building was apparently part of state-building, with the term for "state" (*guo*) denoting a walled city. While many of these cities were quite small, in no time a system of independent and flourishing states arose, each anchored in a major city with merely nominal and ceremonial links to Luoyang.

That, in turn, left the field open to immensely destructive wars, in what came to be known as the period of Warring States. The most ruthless and warlike of these states, Qin, conquered all the others and founded the First Empire. But that proved short-lived, and the Han Empire that replaced it quickly built a great new capital, Changan (Xi'an), while continuing Luoyang in a secondary role. Changan and Luoyang each had their good and bad times (the former was largely destroyed in 189, sacked in 315, plundered in 756 and 763, and subjected to a bloodbath in 881; the latter was utterly destroyed in 189 and 190, sacked in 311, and declined after 907), but they continued to alternate as China's leading cities right until the end of the classical era, when Kaifeng assumed a central place in the Northern Song. By that time Kyoto (Japan) and Sorabol (in Silla, Korea) also joined the ranks of world cities in East Asia that accounted, in the classical era, for about one-third of the world's major urban potential.

The South Asian experience paralleled that of East Asia, albeit on a smaller scale, in that the first millennium BCE saw a flourishing of cities in a context of autonomy, in North India in particular, a process that was then set back by the founding of imperial structures and by external incursions. Out of a cluster of tribal units an urban landscape emerged in the Ganges Valley that in turn coalesced into a system of independent polities that became the seedbed of Buddhism. However, a recent study of the sites of the capitals of sixteen of these Early Historic states showed them to be in the range of 50 to 200 hectares, suggesting populations smaller than their counterparts in China of that time and falling below our threshold.

Over time, one of these became the dominant power and formed the core of an empire centered on Pataliputra, on the Ganges, a large city that greatly impressed a Greek ambassador about 300 BCE. In the second half of the classical era the focus of North India shifted to Kanauji, which became the capital of the Guptas and continued as the centerpiece of regional politics until it was sacked by Muslim armies in 1018 and then destroyed. In the south, Buddhism gained an early foothold in Sri Lanka at Anuradhapura and came to radiate its influence throughout Southeast Asia, including Sri Ksetra in Burma, Palembang in Srivijaja, and Angkor in Cambodia.

The Mediterranean was the focus of the other major urban network of the classical world, equal in weight to the East Asian. The Mediterranean network began to form later in the ancient era but quickly expanded via three great waves of urbanization: the Phoenician, the Greek, and the Roman. In about 1000 BCE Tyre sent a first colony to Cyprus, and soon its settlers founded Carthage, which in short order became the powerhouse of the Western Mediterranean. Pliny the Elder, the encyclopedist, put its population, prior to the start of the wars with Rome, at 700,000, probably too high but indicating its reputation. The second wave came from the Greek world, under the sponsorship of individual cities. For example, Corinth initiated the foundation of Syracuse, on Sicily, whose defeat of the Athenian expedition tipped the scales in the Peloponnesian war, and which may have been, about 400 BCE, the largest city in the Greek world.

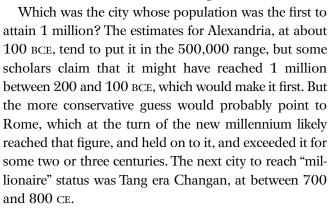
But the greatest impetus to Hellenization came from the conquests of Alexander of Macedon, the founder of numerous cities. The most important of these was Alexandria, which became the capital of the post-Alexandrine rulers of Egypt, the Ptolemies, who fashioned it not only into a center of political power, and of trade and shipping, but also equipped it with a great lighthouse on Pharos Island, a beacon to ship-farers and a symbol of enlightenment for a city boasting of a *museion* and a huge library. A city that was home to many nationalities, Alexandria became the first exemplar, in Stoic thought, of a *cosmopolis*, a city of the world, a higher formation than a mere *polis*.

The last wave was that of the Romans, builders of an empire, but also builders of cities. Rome annihilated

## The harbor of Hong Kong, a major trading and commercial city.

Carthage (but within a century put a new city in its place) and conquered Alexandria, become the imperial capital of this new Greco-Roman world. It grew to huge proportions, to become the world's most populous city, its citizens, untaxed, living off free bread, slave labor, and other spoils of empire. The sack of Rome in 410 CE marked the start of the collapse of Western Rome and the definitive onset, in this part

of the world, of the second Dark Age.



Early in the classical era, powerful West Asian empires, in particular the Assyrian and the Persian, pressed upon the Mediterranean world, probably pushing the Phoenicians out to sea and impressing the Greek world. But the collapse of the Persian realm diminished the vitality of that region and reduced its urban potential, and it was not until the Muslim conquests of the seventh century that new political and urban space opened up to become what we now call the "Muslim world." Arab cavalry armies overthrew the Sassanian Empire and overran large portions of the Eastern Roman Empire based in Constantinople.

Urbanization became one of the hallmarks of the Muslim world. Many cities would be conquered, such as Alexandria and Antioch, others would be destroyed, such as the Sassanian capital, Ctesiphon, and yet others



would be founded, among them Fustat, and later Cairo, al Kufah, and Basrah, as well as Baghdad and Rayy (later to become the seed of Tehran), together with Kairouan and Cordova (as a capital) in the West. By 900 CE, the Muslim world had the densest urban network; it was a principal precinct of the world system on the eve of the modern era.

Each of the four regional processes in Eurasia in the classical era had its own developmental trajectory, but these processes were not isolated phenomena but were entangled in several ways, though seldom in a complete fashion. They can be seen as a world city system with two chief lines of communication: the overland Silk Roads, via Central Asia, and the maritime Spice Roads, via the Indian Ocean. Both in effect bound East Asia to the Mediterranean. The world cities basically formed one system, with routes that served as links among the cities. These were not just trade routes but also the paths taken by new ideas and social innovations such as Buddhism.

The one area of significant urban development that stands apart was in the Americas, between 400 and 800 CE in particular, when we find cities seemingly meeting our criteria in Mexico (Teotihuacan), in the Mayan lands (Tical, Caracol), and possibly even in Peru, a conceivable nucleus of a regional city system. But the system was short-lived and largely collapsed after 800. Anthropologist David Webster questions the urban character of the Mayan cities in particular, and suggests that they were actually "king-places" or "regal-ritual" cities whose singlefunctionality was one reason for the fragility of the system when it was exposed to environmental stress and persistent warfare.

#### The Modern World

For the modern era, we return to a unitary vision because our threshold criterion rises to 1 million, in other words, to "millionaire cities" that, at least initially, were few in number. (See Table 1.)

The table depicts a process that over the course of one millennium raised the number of modern world cities from one, to 300, a rate of urban expansion never previously experienced. What is more, most of that expansion occurred in the last one or two centuries.

To start with, the urban landscape at the turn to the second millennium continued as it was in 900, with a central role for the Muslim world and strong Chinese participation. But then, soon after 1200, disaster struck. In a space of two or three generations, the Mongols captured all the "millionaire cities" and seized control of the Silk Roads, even while laying waste to North China and Central Asia, destroying and massacring the inhabitants of Beijing, Merv, Samarkand, Herat, and Baghdad. When they faded away, one century later, this was still the "Asian age," but the spirit had gone out of it, and the Silk Roads withered.

Viewing the table of modern world cities, we might still see an "Asian age" right up to 1800 because all the world's major cities were then Asian, if not actually Chinese. But on closer inspection that is less of an indicator of wealth and power than a symptom of stagnation because the table shows, before 1800, no evidence of growth, only some form of musical chairs. The growth that mattered was happening at the other end of Eurasia, in Western Europe, but it was, for a while, still under the radar. The growth factor initially rose from the city-states, Genoa and Venice, and in the Low Countries, whose experience was by 1500 translated into that of nationstates. Portugal, Spain, and the Dutch Republic assumed increasingly important global roles spearheaded by their enterprising cities—Lisbon, Antwerp, and Amsterdam. These were experiments in new forms of global organization that reached maturity with the experience of Britain. By 1800 London broke through to the "millionaire city" league, which suggests that innovation is not just a product of city size.

It is the list for 1900 that offers a clear picture of the urban structure that shaped what we tend to think of as the world of the nineteenth and twentieth centuries: the strong British stake earned in the Industrial Revolution, with London, Manchester, Birmingham, and Glasgow; the thennew, and rising, United States' challenge, with New York, Chicago, Boston, and Philadelphia; the traditional great

TABLE 1. Modern Cities of 1 Million Inhabitants or More

YEAR: 1000	1200	1400	1600	1800	1900*	2000*
1	3	1	1	4	16	299
Baghdad	Baghdad	Nanjing	Beijing	London	London	Paris
	Kaifeng			Beijing	Manchester	Berlin
	Hangzhou			Edo	Birmingham	Vienna
				Guangzhou	Glasgow	Moscow
					New York	St. Petersburg
					Chicago	Beijing
					Boston	Tokyo
					Philadelphia	Calcutta

\*These are partial lists of the number of cities.

powers of Europe, with Paris, Berlin, Vienna, Moscow, and St. Petersburg, and somewhat marginally, Tokyo, Beijing, and Calcutta.

But that was then, and by 2000 the urban landscape was much changed. The figure reported in table 1, some three hundred cities for that year, means that the population of world cities became too numerous to be shown in that small table. In that year, all the world's regions were now fully represented. The largest single share was that of East Asia which, at over one-third, was not really surprising, for this is about what its share was in the classical era. Overall, the world city system had moved into a new configuration and scholars are now at work to clarify the nature and composition of this new system.



A view of central São Paulo the largest metropolis in South America. The city sprawls over 3,000 square miles and contains countless medium-sized high rise buildings. The city overtook Rio in population during the 1950s largely as a result of investments in the automobile industry that attracted thousands of workers and related industries. It is now the corporate headquarters of Brazil's most important firms. At one point in the mid-1990s, the city claimed to have the largest number of manufacturing workers in the world.

process of interaction between the centers and the peripheries has been a major and recurrent feature of the world system. Thousand-year-long sequences of concentration, which brought city building, may have alternated with periods of redistribution that show stable if not stagnant urban conditions, and these, in the past two instances, gave rise to Dark Ages. This raises the question of whether the urban expansion and concentration recently and prominently underway might not be heralding the onset of a new age of redistribution.

The world cities might be thought of as making up a complex, interlinked system in a condition that might be termed "urban entanglement." In approaching this system, the useful starting point is the presumption of connectivity; in other words, what needs to be demon-

strated is isolation and lack of contact rather than the reverse, which is currently the standard. If world cities have formed a system, then that system might be thought of as having emergent properties over and above the characteristics of its members, such as the alternation of phases of concentration and redistribution just mentioned.

More generally, the world city system might be viewed as a component of world system evolution. The eras of world history (ancient, classical, and modern) that helped us to organize the presentation of our material might be viewed as phases of that process, and we have shown that such eras display quantitative features (such as changes in magnitude) as well as qualitative changes (such as the scope of the network). Our study therefore suggests that world urbanization, which is a key component of globalization, might also be usefully studied as an evolutionary process.

# **Major Trends**

The powerful process presented in this overview has been the steady and unrelenting urbanization on a world scale. That is, over the past several millennia, cities have emerged and have grown bigger and better, and their weight in the social makeup of the human species has kept on rising. By the start of the twenty-first century, onehalf of the world's population was living in cities, and 10 percent in world cities alone (compared to about 1 percent in the ancient and 2 percent in the classical worlds). What is more, because of the concurrent rise in the same time frame of the overall population of this planet, from maybe 6 million to over 6 billion, the absolute number of people living in cities is of course the highest ever.

The world cities have composed, over the millennia, the center of the emerging world system, but their story can never constitute the entire picture, for it neglects all those living outside the great urban centers, those in the peripheries and in the hinterlands of world history. In fact, the

George Modelski

## Further Reading

- Abu-Lughod, J. (1989). Before European hegemony: The world system A.D. 1250–1350. New York: Oxford University Press.
- Adams, R. M. (1981). Heartland of cities. Chicago: Chicago University Press.
- Bairoch, P. (1988). Cities and economic development. Chicago: Chicago University Press.
- Braudel, F. (1984). Parts 2 and 3: The city-centered economies of the European past. In *Civilization and Capitalism 15th to 18th century (Vol. 3): The perspective of the world.* London: Collins.
- Chandler, T. (1987). Four thousand years of urban growth: An historical census. Lewiston: St. Gavid's.
- Childe, V. G. (1950). The urban revolution. *Town Planning Review*, 21(1), 3–17.
- Hourani, A. (1991). Part II: Arab-Muslim societies. In *A history of the Arab peoples*. Cambridge, MA: Harvard University Press.
- Hourani, A., & Stern, S. M. (Eds.). (1970). The Islamic city. Oxford, UK: Oxford University Press.
- Kenoyer, J. (1998). Ancient cities of the Indus Valley civilization. Karachi: Oxford University Press.
- King, P. L., & Taylor, P. (Eds.). (1995). World cities in a world-system. Cambridge, UK: Cambridge University Press.
- Modelski, G. (2000). World system evolution. In R. Denamark, J. Friedman, B. Gills, & G. Modelski (Eds.), World system history: The social science of long-term change (pp. 24–53). New York: Routledge.
- Modelski, G. (2003). World cities–3000 to 2000. Washington, DC: Faros 2000.
- Modelski, G., & Thompson, W. R. (2002). Evolutionary pulsations in the world system. In S. C. Chew & J. D. Knotterus (Eds.), Structure, culture, and history: Recent issues in social theory. Lanham, MD: Rowman and Littlefield.
- Mumford, L. (1938, 1970). The culture of cities. New York: Harcourt Brace. Nichols, D., & Charlton, Y. H. (Eds.). (1997). The archaeology of citystates. Washington, DC: Smithsonian.
- Tilly, C., & Blockmans, W. P. (Eds.). (1994). Cities and the rise of states in Europe A.D. 1000 to 1800. Boulder, CO: Westview Press.
- Toynbee, A. (Ed.). (1967). Cities of destiny. New York: McGraw Hill.
- Webster, D. (2002). The fall of the ancient Maya. New York: Thames and Hudson.
- Wheatley, P. (1971). The pivot of the four quarters: A preliminary inquiry into the origins and the character of the ancient Chinese city. Chicago: Aldine.

# World Maps, Chinese

Maps provide an excellent illustration of the way different cultures conceive of and represent the world around them. Whether maps depict street names and shops in small local spaces or the entire cosmos, maps

reflect the cultural values of both their producers and their intended audience. Naturally then, Chinese maps of "the world" tell us a great deal about the way the Chinese have viewed themselves and others through time and across political boundaries.

Since at least the tenth century Chinese scholars have produced what we might call "world maps." However, until the late nineteenth century, people contemplating any given "world map" often had difficulty determining exactly where "China" ended and where the rest of "the world" began. This difficulty arose because large-scale cartographic representations of space during late imperial times in China involved a number of overlapping political, cultural, and geographical images, identified either by dynastic names (Song, Yuan, Ming, and Qing) or by designations such as the Central (Cultural) Florescence (a state or period of flourishing, Zhonghua), the Spiritual Region (Shenzhou), the Nine Regions (Jiuzhou), the Central Kingdom (Zhongguo), the Central Land (Zhongtu), and All under Heaven (Tianxia). The relationship between these conceptions is by no means always evident in traditional Chinese maps.

Many, if not most, premodern Chinese world maps show an abiding concern with the so-called tributary system, which endured as a prominent feature of China's foreign policy down to the late nineteenth century. This system, which underwent many changes through time, was designed to confirm the long-standing theory that all of the people living beyond China's constantly shifting borders, like all those people within them, were in some sense Chinese subjects.

The bringing of tribute to the Chinese emperor by foreign "representatives" testified to this conceit. As loyal subjects they dated their communications by the Chinese calendar, came to court, presented their "local products," and performed all appropriate rituals of submission, including the standard three kneelings and nine prostrations (kowtow). In turn they received a patent of appointment as well as an official seal for correspondence with the Chinese "Son of Heaven." They were given lavish presents, offered protection, and often granted privileges of trade at the frontier and at the capital. This assumption Culture is but the fine flowering of real education, and it is the training of the feeling, the tastes, and the manners that makes it so. • Minnie Kellogg (1880–c. 1949)

of universal overlordship blurred the distinction between maps of "China" and Chinese maps of "the world."

# **Earliest World Maps**

The earliest existing world maps in China date from the Song dynasty (960–1279 CE). One of the most famous examples is the amorphous (having no definite form) *Huayi tu* (Map of China and the Barbarians, 1136), a 3-meter-square work, carved in stone, that boasts about five hundred place names and identifies a dozen or so rivers. The map shows a few foreign lands visually—notably, Korea and India—but it represents more than a hundred different groups of "barbarian" peoples only by written notes in the margins. Several of these notes refer specifically to tributary relationships, past and present.

However, not all Song dynasty renderings of space followed this amorphous model. Indeed, inscribed on the reverse side of the *Huayi tu* is an astonishingly "modern"-looking work entitled the *Yuji tu* (Map of the Tracks of Yu, 1136). It is the earliest existing example of the so-called latticework cartographic grid in China. The outstanding feature of this map, in addition to the near total absence of written commentary, is its extremely "accurate" depiction of major landforms, including the Shandong Peninsula, as well as China's two major waterways, the Huang (Yellow) River and the Chang (Yangzi) River.

Throughout the remainder of the imperial era, down to 1911, Chinese cartographers continued to produce both kinds of world maps. However, tributary-oriented "cultural" representations of the *Huayi tu* variety vastly outnumbered mathematically accurate ones. Although Jesuit missionaries brought sophisticated surveying techniques to China in the seventeenth century, enabling the Qing dynasty (1644–1912) to create extraordinarily "accurate" maps of the empire for certain political and strategic purposes, they did not inspire a more general cartographic revolution in China, much less provoke a change in the way the Chinese viewed the world.

To be sure, Chinese scholars were not averse to using Western cartographic knowledge selectively. Consider, for example, Cao Junyi's *Tianxia jiubian fenye renji lucheng quantu* (A Complete Map of Allotted Fields, Human

Events and Travel Routes [within and without] the Nine Border Areas under Heaven, 1644). This expansive work acknowledges the existence of Europe, Africa, the Middle East, and India and gestures toward mathematical accuracy by providing longitudinal lines and degrees (which do not, however, correlate well with specific locations). However, the Middle East and India are represented primarily by cartouches (ornate or ornamental frames), and Africa—which appears only about one-tenth the size of China—hangs down on the western side of Cao's map as if it were little more than a protective flank. Europe, tiny and even more marginal, is barely recognizable in the upper northwest portion of the map. Significantly, in his treatment of "barbarians" Cao does not differentiate clearly between actual foreign countries and the lands and peoples described in ancient mythical works such as the Shanhai jing (Classic of Mountains and Seas).

# Cartographic Traditions

We can see another effort to integrate radically different cartographic traditions into a single production in the work of Ma Junliang (flourished c. 1780). Although his *Jingban tianwen quantu* (Capital Edition of a Complete Map [Based on] Astronomy, c. 1790) is dominated by a rectangular *Huayi tu*-style rendering of "the world," with inscriptions that emphasize the process by which "barbarian" envoys come to China and offer themselves as vassals of the Qing dynasty, it also boasts a seventeenth-century Chinese version of a Jesuit map of the Western Hemisphere and a similarly structured, but more detailed, Chinese map of the Eastern Hemisphere that was first published by Chen Lunjiong in his *Haiguo wenjian lu* (Record of Things Heard and Seen in the Maritime Countries) in 1730.

The rise of Western imperialism during the nineteenth century brought a new level of global awareness to China. Intelligence-gathering efforts during the Anglo-Chinese War of 1839–1842 began the process, and by the end of the Sino-Japanese War (1894–1895) the traditional Chinese worldview had been completely undermined. From this time onward in elite journals and even

popular almanacs and encyclopedias, Chinese readers sought ever more accurate knowledge about other parts of the world, including Japan.

As in many other aspects of Chinese life after 1895, the rise of Chinese nationalism—generated by China's humiliating defeat by the Japanese—brought a revolution in Chinese cartography. One revealing example is a map taken from a popular almanac of 1912—the year the Qing dynasty fell. Although not particularly sophisticated in terms of mathematical cartography, it is instructive because its commentaries identify all the places taken from China by foreign imperialism—including the province of Taiwan and the former tributary states of Korea, the Liuqiu Islands, and Vietnam. Chinese cartography had suddenly become irrevocably "global" in a radically new and highly nationalistic way.

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# **Further Reading**

Harley, J. B., & Woodward, D. (Eds.). (1994). The history of cartography: Vol. 2, Book 2. Cartography in the traditional east and southeast Asian societies. Chicago: University of Chicago Press.

Hostetler, L. (2001). Qing colonial enterprise: Ethnography and cartography in early modern China. Chicago: University of Chicago Press.
 Howland, D. R. (1996). Borders of Chinese civilization: Geography and history at empire's end. Durham, NC: Duke University Press.

Leonard, J. K. (1984). Wei Yuan and China's rediscovery of the maritime world. Cambridge, MA: Harvard University Press.

Smith, R. J. (1996). Chinese maps: Images of all under heaven. Oxford, UK: Oxford University Press.

Smith, R. J. (1998). Mapping China's world: Cultural cartography in late imperial times. In Y. Wen-hsin (Ed.), Landscape, culture and power in Chinese society (pp. 52–109). Berkeley and Los Angeles: University of California, Center for East Asian Studies.

Yamashita, K. (1996). *Japanese maps of the Edo period*. Tokyo: Kashiwashobo.

Yee, C. D. K. (1996). Space and place: Mapmaking east and west. Annapolis, MD: St. John's College.



# World System Theory

TX7 orld system theory (WST) is an explanation of the way in which the world has developed since 1500. The sociologist Immanuel Wallerstein (b. 1930) invented this concept in his 1974 book The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century and later followed up with two more volumes, taking the story to the nineteenth century. WST divides the world into a core, peripheries, semiperipheries, and external regions as a means of elucidating why certain regions in the world have developed to a greater extent than others. Many others, including sociologists and historians, have used this paradigm to understand economic, political, and social developments in the world. Most world histories in one way or another refer to this paradigm. Wallerstein used WST to explain world development up to the twentieth century in a series of subsequent volumes, though his work on the sixteenth and seventeenth centuries remains the most influential.

#### Antecedents

Although WST was the first theory to encompass most of the world, there are a number of similar theories that preceded Wallerstein's paradigm. Fernand Braudel (1902– 1985), a French historian, published various books on regional economic networks, including the rise of capitalism in the world. His The Mediterranean and the Mediterranean World in the Age of Philip II, first published in 1949, presaged the large-scale regional economic history that transcended political boundaries. Likewise in the mid-1960s, dependency theory emerged from Latin America, where a number of neo-Marxist authors argued that the economic development of that region had been distorted by the dependent relationship between the metropolis and satellites that continued beyond the colonial period. Dependency theory, like WST a bit later, argued that the underdevelopment of

# Treaties and the World System

The following text is an extract of the first ten articles of a treaty between the British East India Company and the Nawab Shujau-d-daula, of Oudh, and the Nawab Najmu-d-daula, of Bengal set forth in 1765 after the British had established themselves as the rulers of Bengal. The treaty allows British control over trade, a military presence, and also requires Bengal to pay compensation to England for its expenses in the war. One-sided treaties such as these were a major factor in the European core establishing control over the Asian periphery.

Article 1. A perpetual and universal peace, sincere friendship, and firm union shall be established between His Highness Shujau-d-daula and his heirs, on the one part, and His Excellency Najmu-d-daula and the English East India Company on the other; so that the said contracting powers shall give the greatest attention to maintain between themselves, their dominions and their subjects this reciprocal friendship, without permitting, on either side, any kind of hostilities to be committed, from henceforth, for any cause, or under any pretence whatsoever, and everything shall be carefully avoided which might hereafter prejudice the union now happily established.

Article 2. In case the dominions of His Highness Shujau-d-daula shall at any time hereafter be attacked, His Excellency Najmu-d-daula and the English Company shall assist him with a part or the whole of their forces, according to the exigency of his affairs, and so far as may be consistent with their own security, and if the dominions of His Excellency Najmu-d-daula or the English Company, shall be attacked, His Highness shall be in like manner, assist them with a part of the whole of his forces. In the case of the English Company's forces being employed in His Highness's service, the extraordinary expense of the same is to be defrayed by him.

Article 3. His Highness solemnly engages never to entertain or receive Cossim Ally Khan, the late Soubahadar of Bengal, & C., Sombre, the assassin of the English, nor any of the European deserters, within his dominions, nor to give the least countenance, support, or protection to them. He likewise

former colonies was the logical outcome of a capitalist world system that favored western Europe and, later, the United States. To a large extent, it was an answer to modernization theory, which developed after World War II and which posited that the underdeveloped world was at an earlier phase of economic development and simply needed to catch up to the industrialized nations.

# The Mechanics of World Trade

World systems theory has as its basis the assumption that unequal trade patterns have significant economic, social, and political consequences. Wallerstein created WST to explain the rise of western Europe as the major player in world history in the modern era and to show how Europe and, later, the United States remained in a dominant position since then. Wallerstein hypothesized that all regions within the world fell into one of his four general categories. Core regions are those that have strong states, manufacturing, free-labor regimes, and are able to take advantage of peripheral regions through the trade of manufactured goods for raw materials. Peripheries are the politically weak regions that produce the raw materials for the core. They are characterized by poverty among the majority of the population, based in part on the coerced cash-crop labor systems that are needed to provide the core with cheap raw materials. Semiperipheries are regions that are either on their way up to becoming core regions or core regions that have declined. Although they may wield significant military might, they are relatively weak economically vis-à-vis the core and mainly have sharecropping (tenant farmers paying rent in the form of crops) within their own boundaries. External regions are those that have not yet been integrated into the world system.

solemnly engages to deliver up to the English whatever European may in future desert from them into his country.

Article 4. The King Shah Aalum shall remain in full possession of Cora, and such part of the Province of Illiabad (Allahabad) as he now possesses, which are ceded to His Majesty, as a royal demesne, for the support of his dignity and expenses.

Article 5. His Highness Shujau-d-daula engages, in a most solemn manner to continue Balwant Singh in the zemindaries of Benares, Ghazepore, and all those districts he possessed at the time he came over to the late Nabob Jaffier Ally Khan and the English on condition of his paying the same revenue as heretofore.

Article 6. In consideration of the great expense incurred by the English Company in carrying on the late war, His Highness agrees to pay them (50) fifty *lakhs* of rupees in the following manner; *viz.* (1) twelve *lakhs* in money, and a deposit of jewels to the

amount of (8) eight *lakhs* upon the signing of this Treaty, (5) five *lakhs* one month after, and the remaining (25) twenty-five *lakhs* by monthly payments, so as that the whole may be discharged in (13) thirteen months from the date hereof.

Article 8. His Highness shall allow the English Company to carry on a trade, duty free, throughout the whole of his Dominions.

Article 9. All the relations and subjects of His Highness, who in any manner assisted the English during the course of the late war, shall be forgiven, and no ways molested for the same.

Article 10. As soon as this Treaty is executed, the English forces shall be withdrawn from the dominions of His Highness, except such as may be necessary for the garrison of Chunar, or for the defence and protection of the King in the city of Illiabad (Allahabad) if His Majesty shall require a force for that purpose."

Source: Keith, A. B. (1922). Speeches and documents on Indian policy, 1750-1921. Vol. 1 (pp. 28–30). Oxford, UK: Oxford University Press.

# Western Europe as the Principal Actor

Wallerstein posited that the world system began in the 1400s as the result of the peculiar historical circumstances of Europe's late medieval period. In addition to commercial dynamism, some of the small states that emerged from feudalism during this period, including Spain, Portugal, France, and England, became highly centralized and thus were able to expand and compete for colonies on a worldwide scale. Through mercantilism (which for Wallerstein is a type of capitalism), they protected their own workers in a free-wage system and created a colonial system in which the colonies provided raw materials in return for manufactured goods. England and France evolved into core states that dominated commercially, whereas the Iberian countries declined into a semiperipheral status, with little manufacturing and sharecropping becoming dominant. In turn, the colonial regions became peripheral; trade patterns favored the western European core regions. To pay for the manufactured goods (always more expensive than raw materials because of the value added through manufacturing), the peripheral regions had to coerce labor to keep costs down. The colonial elites aided in this endeavor by helping to repress workers through systems such as, in the Spanish Andes, the *mita*, which supplied indigenous labor to silver mines. Under the *mita*, colonial officials obligated the chiefs of Andean Indian villagers in a swath from Cuzco to Potosí to send a seventh of all adult males to the mines and spend a year working in the mine shafts.

The western European core was able to take advantage of other regions without dominating them militarily. Eastern Europe, for example, became peripheral after the recession of the fourteenth and fifteen centuries resulted in a manorial reaction and a second serfdom for the peasantry there. In the sixteenth century the eastern European



The invasion of Russia is to save
Western civilization. • ADOLF HITLER
(1889-1945)

aristocracy cultivated grains to export westward and so gain access to western European goods; to do so, they forced free peasants into serfdom to work on their estates.

Up until the nineteenth century, a number of regions, including most of Africa, Russia, and China, remained largely unaffected by western European penetration. These regions developed their own, noncapitalist systems that at times also relied on coercive labor practices. During the period of imperialism in the nineteenth century, however, even these regions were pulled into the world economic system, though Russia and later China became external after their Communist revolutions.

WST has been used to explain a number of other phenomena, such as the dynamics of frontier regions in the Americas, the environment, or gender relations in developing countries. WST has also proven fruitful in disciplines beyond historical sociology and history, such as geography (looking at product flows in regional perspective) and archaeology (in which the types of trade goods found from different regions provide a kind of economic hierarchy and make possible suppositions about social systems beyond the region being excavated).

# Criticisms of World System Theory

There are a number of criticisms that have been made of WST, some of which have been answered by Immanuel Wallerstein and other scholars in his camp. First of all, external regions were probably never quite external. Even Russia and China were involved in the world system before the nineteenth century (though China perhaps less so). The sociologist Janet Abu-Lughod, for example, showed that there was a world system in the thirteenth and fourteenth century dominated by Arab traders before western Europe became dominant. One might make similar cases for systems centered on China as well.

Likewise, the semiperiphery is a fuzzy category, more a catch-all for examples that do not fit in other categories than a true analytical category in its own right. Spain and Portugal weren't quite part of the core, but they clearly did dominate their colonies. They prohibited the manufacture of certain products in their colonies (Spain, for example, prohibited the manufacture of wine and olive oil) and thereby hindered their possessions' development.

WST does not take into account sufficiently the actions of subalterns in the peripheries. Western Europe is seen as the actor and the rest of the world as the acted upon. But subaltern activities had important consequences. For example, in the plantation economies of the Caribbean, a quintessential peripheral region, slave resistance and rebellion were important factors that mitigated and changed the kind of exploitation that took place. The successful slave rebellion of Haiti created all kinds of changes in the rest of the Caribbean and eventually helped bring about the end of slavery in the region.

The world system, as conceived by Wallerstein, is too static. The model is too simplistic to take into account the complexities of economic interactions. In theory, unequal trade keeps peripheral regions in their place. The unequal terms of trade continue to siphon off capital from the peripheries, making it impossible for them to become core regions. But this has not been the case historically. The United States, for example, was a peripheral region of England, but it later emerged as an industrial power. Likewise, South Korea was a periphery until the midtwentieth century but has since become a successful industrial power. Lastly, WST, true to its Marxist roots, assumed that the only way to leave the world system was through socialist revolution. This may be the case, but it appears that the Communist utopia is, at least for the present, dead.

Overall, WST has been very useful for understanding worldwide processes. It has showed how economic systems (and particularly trade regimes) affected politics, social structure, and labor systems. Archaeologists have been able to use its insights about core-periphery relations to think about how to read the existence and frequency of trade items among archaeological remains. It has probably been most useful for explaining the processes and effects of European expansion in the sixteenth through the eighteenth centuries.

Anything that gets invented after you're thirty is against the natural order of things and the beginning of the end of civilisation as we know it until it's been around for about ten years when it gradually turns out to be alright really. • Douglas Adams (1952–2001)

## **Further Reading**

Abu-Lughod, J. (1991). Before European hegemony: The world system A.D. 1250–1350. Oxford, UK: Oxford University Press.

Braudel, F. (1995). The history of civilization. New York: Penguin.

Braudel, F. (1996). The Mediterranean and the Mediterranean world in the age of Philip II. Berkeley and Los Angeles: University of California Press.

Cardoso, F. H., & Faletto, E. (1979). Dependency and development in Latin America. Berkeley and Los Angeles: University of California Press.

Cooper, F., Stern, S., Mallon, F., Isaacman, A., & Roseberry, W. (2000). Confronting historical paradigms: Peasants, labor, and the capitalist world system in Africa and Latin America. Madison: University of Wisconsin Press.

Frank, A. G. (1969). Capitalism and underdevelopment in Latin America: Historical studies of Chile and Brazil. New York: Monthly Review Press.

Hall, T. D. (2000). A world-systems reader. New York: Rowman & Littlefield.

Shannon, T. (1996). Introduction to the world-systems perspective (2nd ed). Boulder, CO: Westview.

Sklair, L. (1994). Capitalism and development: Immanuel Wallerstein and development studies. New York: Routledge.

Wallerstein, I. (1980). The modern world-system I: Capitalist agriculture and the origins of the European world-economy in the sixteenth century. San Diego, CA: Academic Press.

Wallerstein, I. (1980). The modern world-system II: Mercantilism and the consolidation of the European world-economy, 1600–1750. San Diego, CA: Academic Press.

Wallerstein, I. (1988). The modern world-system III: The second era of great expansion of the capitalist world-economy, 1730–1840s. San Diego, CA: Academic Press.

# World Trade Organization

See General Agreement on Tariffs and Trade

# World War I

World War I (1914–1918) was the great climax of the age of competitive imperialism. The deepest causes of the war lay in competition between the major European powers for control over territories newly occupied by Europeans during the late nineteenth century, especially in Africa, Asia, and the Pacific. This competition was linked to competition in armaments and a generalized sense of competition in industrial development. As the period of economic liberalization of the midnineteenth century receded, it was replaced by an age of rival tariff regimes. Rivalries produced a series of localized wars and diplomatic crises during the two decades before 1914. Some rivalries reflected global competition, such as the Fashoda Crisis (1898) in Sudan, the South African War (1899–1902), the Russo-Japanese War (1904– 1906), the Moroccan Crises (1905 and 1911), and the Italian invasion of Libya (1911). Some rivalries reflected long-standing tensions in southeastern Europe, such as the crisis over the Austrian annexation of Bosnia-Herzegovina (1908–1909). These tensions in turn solidified the rival power blocs into which Europe had been divided, with Russia, France, and Britain bound in one alliance system (the Entente) and Germany, Austria-Hungary, and Italy in another (the Triple Alliance).

Certain destructive political and economic doctrines also seduced educated opinion. Social-Darwinist and geopolitical theories, which asserted the inevitability of wars to control resources, helped reconcile many people to the idea of war. Political pressure groups and the new cheap newspapers asserted imperialist and militarist values. Domestic political tensions, worsened by rapid industrialization, especially inside Germany and Russia, also tempted reactionaries to see a short and successful war as a means of escape from reformist or revolutionary movements.

On the other hand, countervailing forces existed. Both liberal and socialist internationalists promoted notions of peace through free trade or working-class solidarity. Increasing economic interdependence between the major powers caused many people to believe that war was unlikely. Some people hoped that the two Hague Peace Conferences of 1899 and 1907 signaled that a new international order was in formation.

The descent into war itself had European origins. On 28 June 1914 Archduke Franz Ferdinand, heir to the Austro-Hungarian throne, was assassinated in Sarajevo, Bosnia, by Serbian nationalists. The Austro-Hungarian

War itself is bad. Think of lying on the ground where the hot sun is beating directly on your backs; think of yourself buried in a hole with only your head and hands outside, holding a gun. Imagine yourself facing this situation for seven days, no food, no water, yet you don't feel hungry; only death smelling all over the place.

government decided to use the assassination as an opportunity to inflict a military punishment on Serbia, its rival in southeastern Europe. Promises of German support, even if the humiliation of Serbia involved risk of a wider war, were obtained. Austria-Hungary delivered an ultimatum to Serbia on 23 July, demanding drastic action against nationalist extremists. The Russian government, supporting Serbia, acted with equal vigor and instituted orders for "the period preparatory to war" on 26 July. The Austro-Hungarians opened their military campaign against Serbia on 28 July. The sequence of diplomatic events that followed during the next week ensured the escalation of a local war (between Serbia and Austria-Hungary) into a continental war (between Germany and Austria-Hungary on the one hand, and Russia and France on the other) and then a world war (when Britain declared war on Germany). All sides made errors that snuffed out hopes for peace. The Germans, whose leaders wavered between eagerness for war and a preference for a negotiated settlement, failed to press the case for mediation upon their Austro-Hungarian allies. Similarly, the British and French failed to discourage the Russians from precipitate action, always giving a higher priority to the preservation of their alliance system. The Russians recklessly ordered general mobilization on 30 July. The Germans, gambling mistakenly on British neutrality, rushed to declarations of war against both Russia and France on 1 and 3 August and violated Belgian neutrality on 3 August. The British, stung by this violation and determined to maintain their alliances against their chief imperial and commercial rival, declared war on Germany on 4 August.

## No Quick Victories

The first months of fighting were marked by rapid military movements. The first battles, however, failed to deliver quick victories to those taking the offensive. On the western front the German invasion of Belgium and France was halted at the Battle of the Marne in France in September 1914. On the eastern front the Russian invasion of East Prussia was halted at the Battle of Tannenberg in late August. After the first Battle of Ypres in Belgium in November, a vast line of trenches in the west stabilized. By this time the war had escalated globally. Japan entered the war on the Entente side in August in order to secure German possessions in the Pacific and China. Turkey entered on the side of the Central Powers (Germany and Austria-Hungary) in November, hoping to profit at the expense of Russia, Turkey's old antagonist. During the first months of the war Britain and its imperial allies conquered the bulk of Germany's colonial empire.

During 1915 horrors multiplied. In Turkey the most appalling in a list of atrocities unleashed by the war occurred: The Armenian people endured an attempted genocide. On the western front a series of offensives by the British and French failed to dislodge the German forces. Similarly, in April the Turks repulsed an Entente attempt to seize the Dardanelles strait by landing at Gallipoli, and the invasion force withdrew in December. In May Italy was induced to enter the war on the Entente side but enjoyed no military breakthrough. On the eastern front German and Austro-Hungarian campaigns were more successful, and Russian Poland was occupied in the summer. Bulgaria entered the war on the side of the Central Powers in September, and a subsequent German-led offensive in Serbia was also successful. An Entente counteroffensive from Salonika in Greece in October stalled, and British forces also retreated from Baghdad. Whereas the "war map" favored the Central Powers, the Entente was successful in economic warfare. Britain's decision to impose an economic blockade on Germany in March 1915 began the process of Germany's internal debilitation.

Vast battles of attrition, in a war now based upon industrialized killing, characterized the fighting in 1916. In the west both a German attempt to take Verdun, France (February–July), and a British counterattack at the Somme River in France (July–November) ended in costly failures. Romania entered the war on the Entente side in August but was soon overrun by German forces. A Russian offensive in the Austro-Hungarian province of Galicia (June-August) was more successful. A vast naval battle between the British and German fleets off the Jutland (Jylland) Peninsula of Denmark in May had an indecisive Listen to the sound from exploding bombs and machine guns, smoke all over and the vegetation burnt and of course deforested. Look at your relatives getting killed, crying and finally dead. These things we did, experienced, and saw. • Fololiyani Longwe (Malawian World War I Veteran)

outcome. However, German surface vessels were unable to challenge the British blockade after that date. In addition, in response to U.S. pressure, Germany was forced to moderate its use of submarines against merchant ships in the Atlantic. U.S. sales of war material, overwhelmingly to the Entente side, continued to grow. The Central Powers again dominated in territorial terms in 1916, but the blockade steadily worsened shortages of domestic food and matériel.

In pursuit of unity at home, both sides promised their people that they were fighting defensive wars. Diplomatically, however, both sides made deals involving promises of annexations, either to shore up or to widen their alliances. By the Straits Agreement of March 1915, Britain and France promised Russia possession of Constantinople, Turkey. In April 1915, by the Treaty of London, Britain promised Italy significant annexations on the Adriatic coast. In October 1915 Britain promised the Sharif of Mecca that Britain would support independence for the Arab peoples under Ottoman rule if the Arabs rose in revolt. The exact boundaries of future independent Arab states, however, were not made clear. In February 1916 France and Britain agreed to divide the bulk of the former German colonies. Under the Sykes-Picot Agreement of May 1916, France and Britain agreed on the partition of the bulk of the Ottoman Empire. Similarly, Germany prepared plans for annexations in both east and west in the so-called September Program of 1914. Germany's leaders of army and navy steadfastly insisted on annexations in Belgium and France for strategic security. In securing Bulgaria's adhesion to the Central Powers in September 1915, Germany promised Bulgaria gains in Macedonia. Most importantly, in 1915 and 1916 Germany and Austria-Hungary also agreed on annexations in eastern Europe at Russia's expense. In a major step toward this goal, in November 1916 Germany and Austria-Hungary proclaimed a new kingdom of Poland, carved out of Russian Poland.

## **Politics Polarized**

The war polarized politics. The increasing demands of war meant that liberal ideals were at a discount. From the political right in each warring nation arose pressures for more authoritarian policies and an all-consuming military mobilization. The ultrapatriotic newspapers called incessantly for victory at any cost through the suppression of dissent, the expulsion of aliens, and radical economic nationalism. Politicians and military figures promising an intensification of the war rose to prominence and displaced moderates. For example, in Germany Generals Ludendorff and Hindenburg were appointed to the Supreme Command in August 1916. The two generals overshadowed the civilian government, and their political intriguing eventually secured the resignation of Chancellor Bethmann-Hollweg in July 1917. In Britain the Liberal government of H. H. Asquith steadily retreated from free speech, free service, and free trade. Conscription was introduced in January 1916. The Paris Resolutions, decided upon at an inter-allied conference of British, French, and Russian delegates in Paris in June 1916, threatened Germany with a postwar economic boycott. David Lloyd George, promising to wage war more vigorously until achieving a "knock-out blow" against Germany, displaced Asquith as prime minister in Britain in December 1916.

Nonetheless, in late 1916 diplomats attempted to resolve the war by negotiation. On 12 December Germany offered to end the war by a diplomatic settlement. On 18 December U.S. President Woodrow Wilson, a dedicated liberal internationalist, urged all sides to specify their war aims, hoping to increase pressure for negotiations. Britain, Russia, and France rejected the German offer on 30 December. Wilson pressed the case for "peace without victory" in a major address to the U.S. Senate on 22 January 1917. The Germans, however, undercut his effort, announcing a resumption of unrestricted submarine warfare for 1 February 1917. This resumption threatened the lucrative U.S. trade in war matériel with the Entente. Wilson cut off diplomatic relations with Germany. However, not until the collapse of the czarist regime in the first Russian Revolution of mid-March did Wilson make his final decision on war. Characterizing the war as a democratic crusade, Wilson took the United States into the war against Germany on 6 April 1917.

# German Reaction to Treaty of Versailles

On 7 May 1919, the Treaty of Versailles was presented to German officials. As the extract below makes clear, the reaction was a bitter one, with the German representative Count Ulrich von Brockdorff-Rantzau appearing "sullen, arrogant, unrepentant."

Already a secretary had quietly walked over to the table at which the Germans sat, and laid before them the thick, two-hundred-odd-page treaty—"the book."

With Clemenceau still standing, the pale, black-clad Count Brockdorff-Rantzau, head of the German delegation, began reading his reply—seated.

An almost perceptible gasp swept the room, for the failure of the German to rise was taken as a studied discourtesy. Some felt that he was too nervous and shaken to stand. Others felt that he wanted to snub his "conquerors." The truth is that he planned to sit, not wishing to stand like a culprit before a judge to receive sentence.

Nothing could better reflect the spirit of the Germans. They felt that the war had been more or less a stalemate; they had laid down their arms expecting to negotiate with a chivalrous foe. As equals, why should they rise like criminals before the Allied bar?

If Brockdorff-Rantzau's posture was unfortunate, his words and the intonation of his words were doubly so.

The Germans had not yet read the Treaty, but they had every reason to believe that it would be severe. They had not been allowed to participate in its negotiation; they would not be allowed to discuss its provisions orally with their conquerors. Brockdorff-Rantzau decided to make the most of this his only opportunity to meet his adversaries face to face and comment on the unread Treaty. Both his manner and his words were sullen, arrogant, unrepentant.

Speaking with great deliberation and without the usual courteous salutation to the presiding officer, he began by saving that the Germans were under "no illusions" as to the extent of their defeat and the degree of their "powerlessness." This was not true, for both he and his people were under great illusions.

During 1917 military stalemate persisted. Major campaigns were persisted with—in part to forestall rising public pressure for the revision of war aims and peace. The German U-boat war in the Atlantic was initially successful but was countered by the convoy system. The French attempted an advance in the west under General Nivelle in April, but this soon faltered, and mutinies followed. The Russians mounted a last major advance in July, but it ground to a halt within a fortnight. The British followed with a major offensive in Flanders, in Belgium (July-October), also to no avail. The Italians, too, suffered a major reverse at the village of Kobarid (Caporetto), Slovenia, in October. The British success in taking Jerusalem in December was one of the few Entente military successes in 1917. Only the promise of U.S. assistance gave grounds for hope.

In political terms rivalries intensified between the political right, demanding victory at any cost, and the political left, now demanding peace by negotiation or revolution. In Germany widespread strikes were staged in April 1917 (and later in January 1918). German liberals and socialists seeking domestic reform and peace succeeded in passing the Peace Resolution through the Reichstag (parliament) in July 1917. The new Russian government pressed unsuccessfully for an inter-allied conference to revise war aims. European socialists proposed to hold a conference in Stockholm, Sweden, to draw up the basis of a compromise peace, but the Western powers refused to allow their socialist parties to be represented. Britain experienced serious industrial unrest in April, and in August the British Labour Party swung around to support the idea of an international socialist conference at Stockholm. However, faced with continuing disputes among moderate and revolutionary socialists, and the decisions of the U.S., British and French governments to deny passports to their socialist delegates, the organisers eventually abandoned their efforts to summon a broadly representative socialist conference in Stockholm. This intensified domestic political tensions still further. For example, the French socialist party left the Then he referred defiantly but inaccurately to the demand that the Germans acknowledge that "we alone are guilty of having caused the war. Such a confession in my mouth would be a lie." And the word "lie" fairly hissed from between his teeth.

Bitterly he mentioned the "hundreds of thousands" of German non-combatants who had perished since Armistice Day as a result of Allied insistence on continuing the blockade during the peace negotiations. This shaft struck home, especially to the heart of Lloyd George.

When the echo of Brockdorff-Rantzau's last tactless word had died away, Clemenceau spoke. His face had gone red during the harangue, but he had held himself in check with remarkable self-restraint. Harshly and peremptorily he steam-rolled the proceedings to an end: "Has anybody any more observations to offer? Does no one wish to speak? If not, the meeting is closed."

Source: Bailey, T. A. (1947). Wilson and the peacemakers (p. 288ff). New York: Macmillan.

government in September in protest at annexationist politics. The Papal Peace Note of August 1917 was one of many diplomatic opportunities for peace during the year. In Russia the Bolshevik Revolution of November eventually brought about an armistice on the eastern front in December.

#### War Aims Widened

Behind the scenes, however, diplomacy again widened war aims during 1917. In February France and Russia agreed on gains at German expense in east and west in the Doumergue Agreement, and Britain and Japan agreed on the disposal of Germany's colonies in the Pacific. In April, Britain and France offered Italy a share of the spoils of the Ottoman Empire. At three conferences at Bad Kreuznach, Germany, in April, May, and August 1917, again Germany and Austria-Hungary agreed upon annexations, principally in eastern Europe. On the other hand, diplomats made secret attempts at a diplomatic settlement. In September German Foreign Minister Kühlmann

approached Britain offering to give up Germany's gains in the west for a free hand in the east.

During the winter of 1917–1918 the peace talks between the Russians and Germans provided another opportunity for a general peace. However, the Western powers resisted any peace of compromise brokered by socialists. Instead, in separate addresses in January 1918, Lloyd George (his Caxton Hall speech) and Wilson (his Fourteen Points speech) reaffirmed their liberal democratic ideals. Germany eventually imposed a harsh peace on the defeated Russians through the Brest-Litovsk Treaty of March 1918.

In spite of growing domestic discontent inside Germany, the German Army High Command insisted on a vast offensive to achieve a victory in France before U.S. troops could arrive in strength. The offensive was launched on 21 March 1918 and was initially successful. However, Allied counterattacks in July and August threw back the offensive, and an inexorable German retreat began. By September the military crisis was so serious that the German Army High Command buckled. A reformist government of liberals, democrats, and socialists was formed under Prince Max of Baden to pursue both domestic democratization and a negotiated peace. This government applied to Wilson for an armistice. The armistice was signed on 11 November 1918.

The consequences of the war for Europe and the rest of the world in the twentieth century were enormous. The war transformed the territorial boundaries of Europe: Three great conservative empires—the Russian, the German, and the Austro-Hungarian—were swept away. New states were created in eastern Europe, most notably Poland, Czechoslovakia, and Yugoslavia. Huge social changes were starkly revealed. The "socialism of the trenches" undermined notions of class privilege. Democratic expectations were heightened, but disenchantment followed. The idea of "separate spheres" in gender relations was both challenged by women's wider experience of work and reinforced by war propaganda lauding masculine militarism. The war radicalized the political ideologies of the prewar era. Liberalism wilted. The schism

This graph shows the number of battle deaths in the thousands by nation during World War I. The sheer number of deaths and casualities was a major factor in the nations of the world seeking a permanent peace through the League of Nations.

between democratic and revolutionary socialists became unbridgeable. Communism, promising liberation from capitalism and imperialism, was catapulted into world politics. Fascism (and National Socialism) erupted in response, promising salvation from Communism through militarist values, authoritarian politics, and racial purity. The propaganda techniques so ruthlessly deployed during the war to manage the masses inspired the dictators of the interwar years. The enormous cost of the war, which produced huge internal and international debts, contributed to the persistent postwar economic dislocation. In cultural terms the war provoked a pervasive cynicism, tension between the generations, religious doubt, and a profound antimilitarism. A vibrant and critical modernism emerged.

Douglas Newton

See also Interwar Years (1918–1939); League of Nations; Treaty of Versailles

# **Further Reading**

Chickering, R. (1998). *Imperial Germany and the Great War*, 1914–1918. Cambridge, UK: Cambridge University Press.

Ferguson, N. (1998). The pity of war. London: Allen Lane.

Fischer, F. (1967). Germany's aims in the First World War. London: Chatto and Windus.

French, D. (1986). British strategy and war aims, 1914–1916. London: Allen and Unwin.

French, D. (1995). The strategy of the Lloyd George coalition, 1916–1918. Oxford, UK: Clarendon Press.

Goemans, H. E. (2000). War and punishment: The causes of war termination and the First World War. Princeton, NJ: Princeton University Press.

Herwig, H. (1997). The First World War: Germany and Austria-Hungary. London: Arnold.

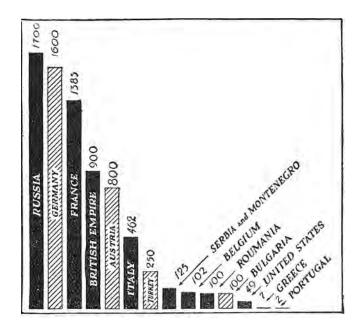
Kirby, D. (1986). War, peace and revolution: International socialism at the crossroads. New York: St Martin's Press.

Knock, T. J. (1992). To end all wars: Woodrow Wilson and the quest for a new world order. Princeton, NJ: Princeton University Press.

McCullough, E. E. (1999). How the First World War began: The Triple Entente and the coming of the Great War of 1914–1918. Montreal, Canada: Black Rose Books.

Millman, B. (2001). Pessimism and British war policy 1916–1918. London: Frank Cass.

Stevenson, D. (1988). The First World War and international politics. Oxford, UK: Oxford University Press.



Strachan, H. (Ed.). (1998). The Oxford illustrated history of the First World War. Oxford, UK: Oxford University Press.

Strachan, H. (2001). The First World War: Vol. I. To arms. Oxford, UK: Oxford University Press.

Turner, J. (1992). British politics and the Great War: Coalition and conflict 1915–1918. New Haven, CT: Yale University Press.

Verhey, J. (2000). The spirit of 1914: Militarism, myth and mobilization in Germany. Cambridge, UK: Cambridge University Press.

Welch, D. (2000). Germany, propaganda and total war, 1914–1918. New Brunswick, NJ: Rutgers University Press.

Wilson, K. (Ed.). (1995). Decisions for war, 1914. London: UCL Press.Winter, J., & Baggett, B. (1996). 1914–1918: The Great War and the shaping of the 20th century. London: BBC Books.

Zeman, Z. A. B. (1971). A diplomatic history of the First World War. London: Weidenfeld and Nicolson

# **World War II**

The Second World War developed, in part, from the resolution of the First World War. The peace conferences ending World War I resulted in a victor's peace, and the vanquished harbored a sense of unfair treatment. The worldwide economic depression that began in the 1920s and continued into the 1930s helped bring about totalitarian regimes in Italy, Japan, and Germany. When democracies could not agree on a forceful, common program to halt aggression, a worldwide war began in the late 1930s and expanded with the inclusion of the Soviet Union in June and the United States in December 1941. When the fighting finally stopped in September 1945, tens of millions of people had died worldwide, the great

# The Effects of the Atomic Bomb on Hiroshima and Nagasaki in August 1945

The United States Strategic Bombing Survey was established by the U.S. War Department in 1944 "for the purpose of conducting an impartial and expert study of the effects of our aerial attack on Germany, to be used in connection with air attacks on Japan and to establish a basis for evaluating air power as an instrument of military strategy, for planning the future development of the United States armed forces, and for determining future economic policies with respect to the national defense" (http://www.anesi.com/ussbs01.htm). The extract below describes the effects of dropping the atomic bomb in Hiroshima and Nagasaki.

Eyewitness accounts of the explosion all describe similar pictures. The bombs exploded with a tremendous flash of blue-white light, like a giant magnesium flare. The flash was of short duration and accompanied by intense glare and heat. It was followed by a tremendous pressure wave and the rumbling sound of the explosion. This sound is not clearly recollected by those who survived near the center of the explosion, although it was clearly heard by others as much as fifteen miles away. A huge snow-white cloud shot rapidly into the sky and the scene on the ground was obscured first by a bluish haze and then by a purple-brown cloud of dust and smoke.

Penetrating rays such as gamma-rays exposed X-ray films stored in the basement of a concrete hospital almost a mile from ground zero. Symptoms of their effect on human beings close to the center of the explosion, who survived other effects thereof, were generally delayed for two or three days. The bone marrow and as a result the process of blood formation were affected. The white corpuscle count went down and the human processes of resisting infection were destroyed. Death generally followed shortly thereafter.

The majority of radiation cases who were at greater distances did not show severe symptoms until 1 to 4 weeks after the explosion. The first symptoms were loss of appetite, lassitude and general discomfort. Within 12 to 48 hours, fever became evident in many cases, going as high as 104 degrees to 105 degrees F., which in fatal cases continued until death. If the fever subsided, the patient usually showed a rapid disappearance of other symptoms and soon regained his feeling of good health. Other symptoms were loss of white blood corpuscles, loss of hair, and decrease in sperm count.

Source: United States strategic bombing survey, summary report (Pacific War) (pp. 22-23). (1946). Washington DC: Government Printing Office. Retrieved June 29, 2004, from http://www.anesi.com/ussbs01.htm

European colonial empires in Asia and Africa soon would end, and two great powers, the USSR and the U.S., found themselves unable to bridge the divide between them and plunged much of the world into a Cold War that lasted until the collapse of the Soviet Union in the late 1980s and the apparent rise of a war against terrorism.

# The Build-Up to War

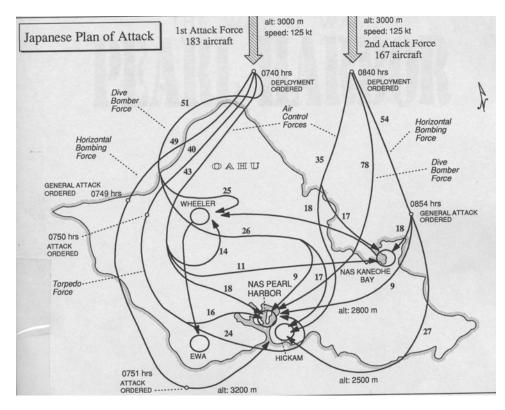
On 18 September 1931, the Japanese Kwantung Army claimed that Chinese bandits had blown up the main track of the South Manchurian Railway, and, within a year, Japan seized control of Manchuria and created a puppet regime, Manchukuo. Japan then moved into Inner Mongolia and Chinese provinces outside the Great Wall. In July 1937, at the Marco Polo Bridge Incident, minor

hostilities expanded into war. Within several years, the conflict settled into a strange, three-sided affair, as Chinese Nationalist forces, Chinese Communist guerrillas, and the Japanese army faced one another, with Japan largely controlling populated eastern China and the Chang (Yangzi) valley, the Communists in their base area at Yanan, and the Nationalists at Qongqing in Sichuan.

Japanese aggression in Manchuria may have encouraged other dictators to disregard the League of Nations and to challenge the entire Versailles Peace Treaty structure. In January 1933, Adolf Hitler (1889–1945) became chancellor of Germany, and he expanded the army and navy, established an air force, and reoccupied the demilitarized Rhineland without serious protest from France or Great Britain. In March 1938, Hitler forced a unification

## The Japanese attack plan on Pearl Harbor launched on December 7, 1941.

of Germany and Austria, the Anschluss, and in September 1938 signed a peace accord with France and Great Britain that handed him the Sudetenland of Czechoslovakia. In March 1939, German forces seized Memel in Lithuania and took control of the remainder of Czechoslovakia. During the summer of 1939, France and Great Britain approached the Union to Poland's territorial integrity, but the USSR shocked the world when it signed a treaty with Nazi Germany in late August.



# **Hostilities Begin**

Hitler turned to war. On 1 September 1939, the Germany army unleashed a blitzkrieg against Poland, crushing the Polish army in three weeks. After a winter pause, Germany attacked Norway and Denmark on 9 April 1940, securing Norwegian ports and Swedish iron ore shipments. On 10 May 1940, Germany threatened a wheeling movement through the Low Countries and then struck through the supposedly impassable Ardennes forest, unleashing its panzer forces behind the advancing allies, driving in several weeks to the English Channel. Only the valiant effort of British seamen lifting more than 300,000 British and Allied soldiers from Dunkirk prevented a complete German victory. Germany turned south against France and forced the French surrender. Hitler apparently wanted to invade Great Britain, in Operation Sea Lion, and the Luftwaffe fought for control over the skies of Britain. Germany's air force was designed for tactical support of advancing ground forces and not for a strategic air campaign, and changed objectives too often from coastal radar stations to fighter air bases to industrial factories, to terrorizing cities, so by late summer 1940 the air offensive had failed. Strangely, from late summer 1940 until spring 1941, the German army launched no new offensives, and perhaps this represented a major opportunity lost.

Germany next turned east. On 7 April 1941, Germany attacked Yugoslavia and Greece, and quickly conquered both countries. On 22 June 1941, Hitler sent more than 3 million German troops, 3,300 tanks, 7,700 artillery pieces, 2,500 planes, and forces from satellite countries plunging into the Soviet Union in Operation Barbarossa. Germany lacked accurate information on its enemy and greatly underestimated the challenge. But, in early summer, it appeared Germany would land the knockout blow, as its Army Group North drove on Leningrad, Army Group Center pulled off several huge encirclements of Soviet troops on the way to Moscow, and Army Group South neared Kiev. In late summer, the troops rested, and Hitler ordered the panzer forces of Army Group Center to turn north and south to help these peripheral drives. Turning south, tank forces of Heinz Guderian helped surround 665,000 Soviet troops around Kiev, the largest prisoner-of-war capture in history. When Germany resumed the advance on Moscow, the Soviet Union was ready. Operation Typhoon failed within sight of the Kremlin and the Soviets counterattacked, catching the German army desperately unprepared. When the Soviet The German invasion of Czechoslovakia is necessary to safeguard the human rights of its Sudetengermans • Joseph Goebbels (1897–1945)

attack petered out in late winter, Germany had suffered grievous losses, and it seemed the Soviet Union could survive.

#### War in the Pacific

Meanwhile, Japan had struck Pearl Harbor, and begun a general offensive in East Asia and the Pacific. The Battle of Nomonhan (Khalkin Gol) in August 1939 caused Japan to look south for raw materials, and Japanese military leaders settled on a centrifugal offensive centered on the destruction of the U.S. Pacific Fleet at Pearl Harbor. On 7 December 1941, Japan attacked, and gained a series of striking victories, including capturing Hong Kong, the Malay Peninsula and the British stronghold of Singapore, the Mariana and Gilbert Islands, the Philippines, Borneo, the Dutch East Indies, and other island groups to secure a vast resource area and territory behind which to defend these gains.

However, Japanese leaders suffered from "victory disease," and, instead of building up their defenses in depth to withstand the American counterattack, they continued their offensive. They tried to isolate Australia and threaten

India. The result was the flawed Japanese attack against Midway in early June 1942, which led to the destruction of four fleet carriers, fatally weakening the Japanese navy.

# Russia Fights Back

Hitler returned to the offensive on the eastern front in summer 1942, but only had strength to attack to the south, aiming for Stalingrad and Soviet oil facilities by the Caspian coast. The distances exceeded German logistical capacity, and General Friedrich Paulus made a fateful decision to commit the German Sixth Army to a fight for Stalingrad. Under General Vasili Chuikov, the Soviet Sixty-second Army engaged in a valiant, desperate defense featuring house-to-house and even floor-to-floor resistance.

As the battle for Stalingrad raged from summer into the fall of 1942, General, later Marshal, Georgi Zhukov planned for a riposte, positioning vast Soviet forces on the vulnerable flanks of the German position at Stalingrad; the Soviets intended to crash through Romanian and Hungarian positions, race around the German Sixth Army and Fourth Panzer Army, and effect a double envelopment. The Soviets struck on 12 November, and several days later the spearheads met at Kalach and cut off the Germans; in early February 1943, the last survivors surrendered. The Soviets followed this victory with an offensive that pushed the Germans out of Caucasia.

When the spring thaw halted operations, there was a bulge into German defenses around Kursk, and Hitler planned for a double envelopment to destroy Soviet positions after which, presumably, he would go on the defensive. But Hitler delayed the start of Operation Citadel many times, waiting for the new, heavy German tanks, and this delay allowed Zhukov to plan for the expected German advance. The greatest tank battle in history

began on 5 July 1943, and the German pincer effort from the north quickly stalled; however the attack from the south, featuring the cream of the German ground forces, made some headway before Hitler suspended offensive operations owing to the Allied invasion of Sicily. Thereafter, the Soviets seized the initiative and by early fall 1943 freed the eastern Ukraine of German forces, and continued advancing into winter 1943 into the western Ukraine, creating a huge bulge on the southern flank of German Army Group Center.

The force and space ratios on the eastern front clearly favored the Soviet Union. Had Germany not attacked at Kursk and had it dedicated its limited productive capacity



A no parking sign posted by American forces in Rome during World War II.

# Deciding on D-Day

In the extract below, Dwight D. Eisenhower describes how June 6th came to be the date for the invasion of Normandy.

When the conference started the first report given us by Group Captain Stagg and the Meteorologic Staff was that the bad conditions predicted the day before for the coast of France were actually prevailing there and that if we had persisted in the attempt to land on June 5 a major disaster would almost surely have resulted. This they probably told us to inspire more confidence in their next astonishing declaration, which was that by the following morning a period of relatively good weather, heretofore completely unexpected, would ensure, lasting probably thirty-six hours. The long-term prediction was not good but they did give us assurance that this short period of calm weather would intervene between the exhaustion of the storm we were then experiencing and the beginning of the next spell of really bad weather.

The prospect was not bright because of the possibility that we might land the first several waves successfully and then find later build-up impracticable, and so have to leave the isolated attacking forces easy prey to German counteraction. However, the consequences of the delay justified great risk and I quickly announced the decision to go ahead with the attack on June 6. The time was then 4:15 A.M., June 5. No one present disagreed and there was a definite brightening of faces as, without a further word, each went off to his respective post of duty to flash out to his command the messages that would set the whole host in motion.

Source: Eisenhower, D. D. (1948). Crusade in Europe (p. 250). Garden City, NY: Doubleday

to defense, German tactical superiority might have withstood Soviet logistical superiority. But Hitler threw away precious panzers and artillery at Kursk, and the Soviets halted operations only when their supply lines ran out.

On 20 June 1944, the Soviets launched Operation Bagration. The Soviet military achieved a great surprise, fooling German commanders in the east into believing that the attack would go south, so the Germans concentrated their limited panzer resources there, largely leaving Army Group Center without tanks. The Soviets attacked, and surged past German positions before the infantry could react or retreat. The advance carried from pre-1939 Russia all the way to the Vistula River and Warsaw in August, when Soviet forces outran their supply lines and halted.

# **Allied Actions** in the Air and at Sea

Meanwhile, on other fronts, the Axis powers retreated. To respond to Soviet calls for a "second front," the United States and Great Britain opened a strategic bombing campaign. Before the development of long-range fighters, the U.S. Eighth Air Force, bombing in daylight, suffered heavy losses, while the nighttime Royal Air Force did little damage against German industrial targets. However, Hitler wanted to maintain home front support, and gradually withdrew fighter squadrons from the eastern front and later from France and Italy to defend Germany. After mid-1943 and the appearance of long-range American fighter planes, the outcome began to favor the Allies.

Similarly, the United States won the Battle of the Atlantic. At first, German U-boats enjoyed great success against the vulnerable American east coast, and later in Caribbean and South Atlantic waters. Soon the United States constructed more cargo ships than the Germans could sink, and also built many escort carriers, carrying only twenty airplanes, but the U.S. Tenth Fleet, organized around these baby carriers and their support ships, hounded German submarines, denying them open areas in which to operate and to surface to recharge batteries. The Allies sank more than 80 percent of German submarines.

#### The War on the Ground

Finally, the Western Allies began to contest the German army. In November 1942, they launched Operation Torch, against French Northwest Africa to complement the British Eighth Army's attack on Erwin Rommel's Afrika Corps positions near El Alamein in the Western Desert of Egypt. By early May 1943 they forced the Axis I, I was France, the state, the government. I, I spoke in the name of France. I, I was the independence and sovereignty of France. • Charles de Gaulle (1890–1970)

surrender in Africa. On July 10, they launched Operation Husky, the invasion of Sicily, and after a six-week campaign crossed into Italy. The Italian government surrendered in September, and most Italian army divisions melted away. The Germans under Field Marshal Albert Kesselring defended well, and progress up the Italian peninsula was slow and costly, but the drain on German resources meant that German commanders could not count on reinforcements from other theaters. On 6 June 1944, the Allies launched Operation Overlord, the invasion of France, commanded by U.S. army general Dwight Eisenhower. Three airborne divisions landed during the night, and five infantry divisions assaulted five beaches, Gold, Sword, Juno, Omaha, and Utah. Despite the difficulty of the hedgerows in Normandy, the Allies brought men and equipment ashore in the expanding beachhead. In late July 1944, the U.S. army launched Operation Cobra; as American forces moved down the Cotentin Peninsula to Avranches and broke out and around the German defense, the U.S. Third Army under General George Patton became operational, and it quickly spread west into the Brittany peninsula and east toward the Seine above Paris. German troops were surrounded near Falaise, and an invasion in southern France, Operation Dragoon, sent American and Free French troops up the Rhone River Valley to meet Patton's forces near Dijon,

cutting off German forces in France.

After Midway, the United States seized the initiative against Japan. At first, it was the desperate fighting on Guadalcanal from August 1942 to February 1943, and then the U.S. advanced on two axes. Admiral Chester Nimitz led the navy advance to the Gilbert Islands and Tarawa in November 1943, to the Marshall Islands and Kwajalein in February 1944, and then to the Marianas in

June 1944, and the invasions of Guam, Saipan, and Tinian along with the Battle of the Philippine Sea, also called the Marianas Turkey Shoot. Army general Douglas MacArthur commanded a mixed force that moved up the Solomon Islands chain and leapfrogged Japanese strongpoints on the New Guinea coast, while isolating the 100,000-man Japanese Army in Rabaul in New Britain. In October 1944, MacArthur invaded the Philippines, although fighting would continue there until war's end. Meanwhile, the Central Pacific offensive moved to Iwo Jima in the Bonin Islands in January 1945 and Okinawa in the Ryukyus in April 1945.

The attack on the Philippines cut off Japanese forces in Southeast Asia, and an Anglo-Indian offensive pushed the Japanese through Burma, though progress, owing to the difficult terrain, was slow. Meanwhile, Chinese government forces managed to occupy a great many Japanese divisions while conserving strength for the expected renewal of the civil war with the Communists.

## Victory in Europe

In fall 1944, the pressure on Germany continued. Strategic bombing of Germany caused many casualties, although Albert Speer achieved a production miracle for war goods. The Red Army paused in the center, sweeping into the Balkans and trapping the Germans along the

Baltic. By December 1944, the Soviets were at the 1939 German-Polish border and near Budapest in Hungary waiting to resume the offensive. In the west, Eisenhower ordered a halt in operations for winter, owing to supply difficulties. In late December 1944, Hitler launched a desperate gamble, an attack against weak American forces in the Ardennes. hoping to drive toward Antwerp, cut off the British, and force the Americans to



Charles de Gaulle inspects troops in North Africa after the region was freed from German control by American and British forces.

Generals think war should be waged like the tourneys of the Middle Ages. I have no use for knights; I need revolutionaries. • Adolf Hitler (1889–1945)

surrender. But the German attack lacked sufficient fuel reserves; the Americans, especially around Bastogne, defended fiercely, and when skies cleared Allied airpower battered German formations. As the Soviets launched a winter offensive, the Allies drove to the Rhine and in March 1945 crossed, first at Remagen, and then along the upper Rhine and finally to the north. Meanwhile, the Red Army drove on Berlin, and Soviet forces under Zhukov and Marshal Ivan Koniev engaged in a race to Berlin, which was won by Zhukov's men at terrible cost. In late April elements of the U.S. and Red armies met at Torgau on the Elbe, and Germany was divided. Hitler committed suicide in his underground bunker in Germany, and on 7 May, German commanders surrendered to Eisenhower in Rheims, France, followed on 8 May 1945 with a surrender to Soviet commanders in Berlin.

## Japan Surrenders

The Japanese continued to resist, and American experts predicted a bloody and costly attack on the Japanese home islands. However, in July 1945, at Alamagordo, New Mexico, scientists exploded the first atomic bomb, and several weeks later the United States dropped an atomic bomb on Hiroshima (August 6) and one on Nagasaki (August 9), compelling Japan's surrender on 2 September 1945 in Tokyo Bay. World War II had ended.

Charles M. Dobbs

See also American Empire; Churchill, Winston; Fascism; Genocide; Hitler, Adolf; Holocaust; Roosevelt, Franklin Delano; United Nations

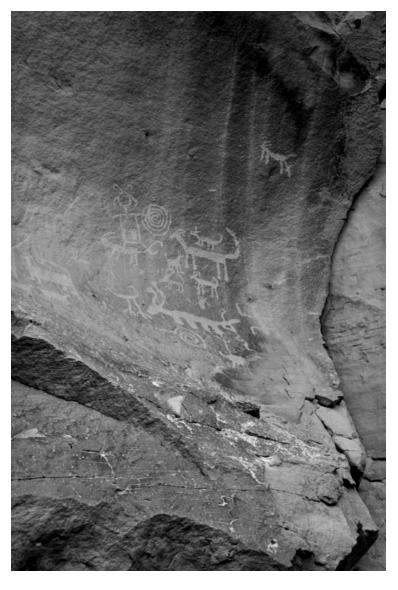
# **Further Reading**

- Crozier, A. J. (1997). *The causes of the Second World War.* Malden, MA: Blackwell Publishers.
- Delaney, J. (1996). The Blitzkrieg campaigns: Germany's "Lightning War" strategy in action. New York: Sterling.
- Donnelly, M. (1999). Britain in the Second World War. New York: Routledge.
- Dupuy, T. N., & Martell, P. (1982). *Great battles on the eastern front: The Soviet–German War, 1941–1945.* Indianapolis, IN: Bobbs-Merrill.
- Glantz, D. M. (2001). Barbarossa: Hitler's invasion of Russia, 1941. Stroud, UK: Tempus.

- Glantz, D. M., & House, J. M. (1995). When titans clashed: How the red army stopped Hitler. Lawrence: University Press of Kansas.
- Hart, B. H. L. (1971). History of the Second World War. New York: Putnam. Howard, M. E. (1968). The Mediterranean strategy in the Second World War. New York: Praeger.
- Hoyt, E. P. (1993). 199 days: The battle of Stalingrad. New York: Tor. Iriye, A. (1987). The origins of the Second World War in Asia and the Pacific. New York: Longman.
- James, D. C., & Wells, A. S. (1995). From Pearl Harbor to V-J day: The American armed forces in World War II. Chicago: Ivan Dee.
- Keegan, J. (1990). The Second World War. New York: Penguin Books. Kitchen, M. (1990). A world in flames: A short history of the Second World
- Kitchen, M. (1990). A world in flames: A short history of the Second World War in Europe and Asia, 1939–1945. New York: Longman.
- Levine, A. J. (1995). The Pacific war: Japan versus the Allies. Westport, CT: Praeger.
- Morison, S. E. (1963). The two-ocean war: A short history of the United States Navy in the Second World War. Boston: Little, Brown.
- Overy, R. (1995). Why the Allies won. London: Jonathan Cape.
- Smith, E. D. (1979). Battle for Burma. New York: Holmes & Meier.
- Spector, R. H. (1985). Eagle against the sun: The American war with Japan. New York: Free Press.
- Tucker, S. C. (2004). The Second World War. New York: Palgrave MacMillan.
- Weinberg, G. L. (1994). A world at arms: A global history of World War II. New York: Cambridge University Press.
- Williamson, M., & Millett, A. R. (2000). A war to be won: Fighting in the Second World War. Cambridge, MA: Belknap Press of Harvard University Press.
- Wynn, K. (1997). U-Boat operations of the Second World War. Annapolis, MD: Naval Institute Press.
- Zapantis, A. L. (1987). Hitler's Balkan campaign and the invasion of the USSR. New York: Columbia University Press.
- Ziemke, E. F. (1968). Stalingrad to Berlin: The German defeat in the east. Washington, DC: Government Printing Office.
- Ziemke, E. F., & Bauer, M. F. (1987). Moscow to Stalingrad: Decision in the east. Washington, DC: Government Printing Office.

# Writing Systems and Materials

Throughout history, writing has played a significant role in the generation of knowledge, the advancement of ideas, and the growth of societies. While many of the details concerning the development of the very earliest systems of writing remain a mystery, there is sufficient evidence available to trace some of the major stages in the evolution of writing and to examine the great variety of writing systems and materials that have been, and continue to be, developed.



#### **Ancient Writing**

Some have argued that the very earliest evidence of written communication comes in the form of paintings of animals on cave walls found in southern France and dated to the Ice Age some 20,000 years ago. Such artistic representations may have been used to convey ideas about both the mysteries and rhythms of the natural world or to provide a narrative—in visual form—describing the relationship of humans to their immediate environment. Several of these paintings bear very distinctive markings, such as dots, signs resembling body parts (e.g., the human hand), and symbols reminiscent of the letter "P" in the English alphabet. Indeed, a variety of unusual prehistoric symbols have been found that may well support the claim that some form of written communication has

#### Rock carving, depicting a hunt, made by ancient Native Americans in New Mexico.

long been an essential feature of the larger human experience.

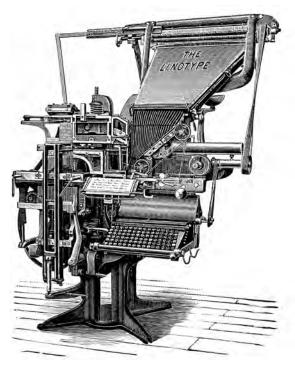
Many credit the Sumerians of ancient Iraq with the creation of the first formal system of writing circa 3500 BCE. In its very earliest stages, it consisted of numerical symbols and pictographs i.e., simple visual representations of objects in the natural world-etched on clay tablets, which were then dried or baked for the purposes of preservation. At first, a pointed reed stylus appears to have been used by Sumerian scribes. Later, three significant developments in written Sumerian would occur. The first was the rotation of the original pictograms ninety degrees in a counterclockwise direction. It has been suggested that this modification facilitated ease in writing. The second, a shift to an angled (or wedge-tipped) stylus, can be classified as a technological change. The reason for this change is not known. However, it enabled the original pictograms to be rendered with a series of wedge-shaped—i.e., cuneiform impressions made on the usual soft clay medium. The third was the radical simplification of these cuneiform signs so that in time they bore little resemblance to their pictographic progenitors. Initially, these signs were baroque in detail and the intent seems to have been to reproduce, to the

extent possible, a cuneiform version of the original pictogram. In time, this no doubt proved to be untenable and unnecessary as the administrative demands on scribes—and their familiarity with the writing system itself—increased. This change may have accompanied a concomitant development in which the original pictograms came to stand for Sumerian lexemes (whole words), morphemes (distinct parts of speech used to form words and delimit syntactic relationships), and phonemes (distinct sounds used to form morphemes and lexemes). Furthermore, this move toward simplification and abbreviation may be related to another phenomenon—the minimalist tendency in Sumerian writing. Scholars have noted that Sumerian texts are sometimes written in a very terse style in which certain parts of speech are excluded.

# Lu Chi: The Art of Writing and Choosing Words

Lu Chi (261-303), renowned Chinese literary critic, was the first important writer to emerge from the kingdom of Wu (222-280). Lu Chi's timeless essay, The Art of Writing, is critical not only to understanding Chinese poetry, but to the entire writing process in general. To the classical Chinese poet at the time, putting one's life in jeopardy over a written work was hardly uncommon. In fact, there were few major classical Chinese poets who did not experience political exile at one time or another. (Western examples also abound: Consider Socrates or the death sentence of Dante.) The following poem by Lu Chi provides a poignant consideration of the delicate art of choosing words for written expression.

III. Choosing Words Ordering thoughts and ideas, we begin to choose our words. Each choice is made with care, fit with a sense of proportion. Shadowy thoughts are brought into the light of reason; echoes are traced to their sources. It is like following a branch to find the trembling leaf, like following a stream to find the spring. The poet brings light into great darkness, even if that means the simple



The linotype, a major advance of the nineteenth century in printing equipment, which made setting type easier and quicker.

It has been suggested that this might be an indication of the fact that the written text itself was intended to serve as a mnemonic device to jog the memory of the reader, who would possess the ability to fill in the existing gaps. Some feel that the ancient Near Eastern antecedent to the Sumerian writing system consisted of inscribed clay tokens and bullae (clay envelopes) into which the aforementioned tokens were inserted. The earliest of these have been dated to 8000 BCE and may have been used as media of economic exchange and for record-keeping purposes. The shapes and etchings that these tokens and bullae bear may have served as the foundation upon which the Sumerian writing system was built.

Hieroglyphic writing, which also began as pictographic and later gave rise to several alternative forms (including Hieratic, Demotic, and Coptic), was developed in Egypt during the fourth millennium BCE as well (c. 3000). Harappan civilization in the Indus Valley also spawned a distinct writing system of its own circa 2500 BCE consisting of a combination of pictographs and symbols. In addition to these very ancient exemplars, many additional writing systems were created in early antiquity. These include: Proto-Elamite (c. 3050–2900 BCE—Iran); the Phaistos Disc script, Linear A, and Linear B (nineteenth, eighteenth,

must become difficult or the difficult easy. Hence, the tiger may silence other beasts, the dragon frighten away birds in terrifying waves. Writing, the traveling is sometimes level and easy, sometimes rocky and steep. Calm the heart's dark waters; collect from deep thoughts the proper names for things. Heaven and earth are trapped in visible form: all things emerge from within the writing brush.

At first, the brush parches our lips, but soon it grows moist from dipping. Truth is the tree trunk: style makes beautiful foliage. Emotion and reason are not two: every shift in feeling must be read. Finding true joy, find laughter; in sorrow, identify each sigh. Sometimes the words come freely; sometimes we sit in silence, gnawing on a brush.

Source: Lu Chi (2000). The art of writing (S. Hamill, Trans.). Minneapolis, MN: Milkweed

Proto-Sinaitic (early second millennium BCE—Egypt); Cretan Hieroglyphic (c. 2100-1700 BCE); Ugaritic (fourteenth century BCE—Syria); Oracle-Bone Script (c. 1300 BCE—China); Hebrew (c. tenth century BCE— Israel); Brahmi and Karosthi (c. 300 BCE—India); Etruscan (eighth century BCE—Italy); Zapotec (sixth century BCE-Mexico); Epi-Olmec/Isthmian (second century BCE—Isthmus of Tehuantepec, Mexico); Mayan (c. 500 BCE—Mexico); Meroitic (c. fourth century BCE —Sudan); Phoenician (tenth century BCE—Lebanon); and Greek (c. eighth century BCE). Others could be added to this list, but this selection is sufficiently representative to give an idea of the antiquity and tremendous diversity of the world's writing systems. From a historical perspective, it would not be an exaggeration to say that written communication has been an essential part of human interaction and a major factor in the development of complex societies. Writing remains a vital part of twenty-first-century life and new systems, media, and technologies continue to be developed. One recent encyclopedia lists some four hundred distinct writing systems (past and present) from around the world, a clear attestation that writing is a global

rather than an isolated human phenomenon.

and fourteenth centuries BCE respectively—Crete);

Concerning the origin of writing, older monogenetic theories for the origin and subsequent diffusion of writing systems are problematic at best. However, more recent hypotheses have not generated universal scholarly accord. A particularly attractive proposal suggests that the intellectual groundwork for the development of writing was set when humans developed the capacity to construe numbers as signifiers of ideas in the abstract along with the ability to relate pictographic representations of objects in the natural world to those words used to describe them. Thus, arithmetic and hermeneutical proficiencies were needed to give birth to writing. A second possibility is that writing is one means by which humans express their anthropomorphic impulse—i.e., their tendency to inscribe themselves on the world around them, thereby rendering it comprehensible and safe. A third would involve seeing writing as a technique developed very early as a means of: (1) recording thoughts, preoccupations, and emotions; and (2) deploying more effectively the primary and secondary semiotic systems available for the expression of concrete and abstract ideas—the human body and the natural world. A final possibility is that the early development of writing is somehow related to the cataloging of natural and cultural realia in the form of lists —a phenomenon well known from the ancient Near East.

Historian, discover the truth and publish it. • Inscription on the grave of Angle Debo (nineteenth century)

# **Analyzing Writing Systems**

A number of different typologies are used in the classification of writing systems, each of which is based on theoretical assumptions about the manner in which they function, their relationship to spoken languages, and the particularities a given categorization scheme is designed to highlight. For some, a distinction is made between semasiographic and glottographic systems. The former uses visual images to indicate ideas directly while the latter employs signs as representations of actual spoken sounds. Others make a distinction between protowriting (e.g., systems using pictograms) and full writing, the latter of which can be further subdivided into syllabic and

consonantal systems. Still others make a distinction between pleremic and cenemic writing. Pleremic systems use written signs to denote morphological essence and lexical meaning. The cuneiform writing system of ancient Sumer would be one example of this type of writing. Cenemic systems use signs to represent distinct phonological units only. The Phoenician, Greek, Latin, and English alphabetic scripts are cenemic in nature.

Surfaces used for written communication have been and continue to be determined in part by the raw materials available in a given geographical location, the genre and purpose of that which is to be written, and the cultural conventions governing the art of writing. There is evidence from around the world for the use of the following: bone, skin (human and animal), shell, rock, clay, textiles, bamboo, bark, cut stone, metal (precious and base), ceramic fragments (i.e., broken pottery), leather, papyrus, parchment, paper, and electromagnetic storage de-

A Chinese woman uses a conical sponge at the end of a rod to draw intricate Chinese characters (hanzi). This is at the Temple of Heaven (Tian-Tan) in Beijing, China, in June 2004. vices. Methods of writing include carving, stamping, painting, engraving, chiseling, burning, sewing, weaving, spraying, incising, and tattooing. Implements used in writing have varied widely and continue to do so. Some of the more important are rocks, reeds, rushes, brushes, quills, pens (with an assortment of metal and fiber tips), graphite pencils, chalk, wax crayons, and electronic data entry devices (e.g., computer keyboards or microphones used in conjunction with voice-recognition software that transforms spoken words into electronic text). Technological advances, the emergence of new forms of writing, and the adaptation of norms in written expression are just a few of the factors contributing to such change.





Close examination of the world's many writing systems reinforces the importance of three general maxims. Those seeking to understand the development of writing within a global context should keep them in mind. The first is that writing systems are as varied as the societies in which they are produced. The second is that written communication is governed by the same social, political, religious, and artistic conventions that influence the creation of other cultural artifacts. The third is that while there are historical data that enable one to trace the diffusion of writing systems in geographically contiguous areas or propose theories that account for their spread through trade, colonization, and other forms of cultural contact, there remain many unanswered questions about the development of writing. Following are a few of the more important. Are there psychological factors that elicit written communication? Is there a communicative impulse in humanity that can only be given full expression in writing? What is the relationship between pictographic writing and other forms of visual artistic expression? To what extent have social elites been responsible for creating systems of written communication and in what ways have such systems contributed to the establishment of political and religious institutions?

Furthermore, there are some equally challenging questions that remain about contemporary writing systems, many of which are the offspring of the ancient precursors noted above. These deserve additional attention. Are alphabetic writing systems limited in their capacity to convey certain concepts and ideas? Do pictographic systems increase or decrease overall literacy rates? In light of global socioeconomic and political trends, and in the absence of an international lingua franca, do pictographic writing systems offer a more accessible and effective means for communication across cultural and linguistic barriers? There are, of course, no simple answers to these questions. However, in addressing them one can shape an agenda for the study of writing in the future that is methodologically sound and open to contributions from the social sciences and the humanities.

It is clear that writing will figure prominently in twenty-first-century communication. It may be that the future will witness the creation of new and experimental writing systems aimed at promoting justice, egalitarianism, mutuality, and other values needed to sustain our global community.

Hugh R. Page, Jr.

See also Computer; Dictionaries and Encyclopedias; Letters and Correspondence; Libraries; Mass Media; Paper

# **Further Reading**

Coulmas, F. (2002). The Blackwell encyclopedia of writing systems. Oxford, UK: Blackwell Publishing.

Guthrie, S. (1993). Faces in the clouds: A new theory of religion. New York & Oxford, UK: Oxford University Press.

Nakanishi, A. (2003). Writing systems of the world: Alphabets, syllabaries, pictograms. Boston: Tuttle Publishing.

Robinson, A. (1995). The story of writing. London: Thames & Hudson. Robinson, A. (2002). Lost languages: The enigma of the world's undeciphered scripts. New York: McGraw-Hill.

Sampson, G. (1985). Writing systems: A linguistic introduction. Stanford, CA: Stanford University Press.

# Writing World History

The term "world history" describes one of the oldest, **L** most persistent, and most pliable forms of history writing. No simple methodological definition is possible, for world histories vary widely in style, structure, and scope. Furthermore, a wide assortment of labels have been used to describe them, including "universal history," "ecumenical history," "regional history," "comparative history," "world systems history," "macrohistory," "transnational history," "big history," and the "new world" and "new global" histories. Despite terminological differences, however, world histories share the purpose of offering a construction of and thus a guide to a meaningful "world"—a "realm or domain taken for an entire meaningful system of existence or activity"—by historians or people in the past (Hughes-Warrington 2004, 4). Thus in this sense all histories are world histories. Where histories differ is in the degree to which the purpose of world construction is explicit.

## Origins and Ancient Universal Histories

Herodotus (c. 484-430/420 BCE), commonly described as the "father of history," is also credited for recognizing that history can be a means for understanding the world. In his Histories, Herodotus delimited the military and political history of the Greeks in part by discrimination from barbarian "others," and thus established the link between world history writing and actual and desired world orders. Studies of the field typically begin at a later point, however, with the emergence of the genre of "universal history." "Universal history" has at least four meanings. It denotes, first, a comprehensive and perhaps also unified history of the known world or universe; second, a history that illuminates truths, ideals, or principles that are thought to belong to the whole world; third, a history of the world unified by the workings of a single mind; and fourth, a history of the world that has passed down through an unbroken line of transmission.

Universal history is conventionally thought to have emerged with the Greek writer Ephorus (405–330 BCE) and the climate of cosmopolitanism engendered by the conquests of Alexander the Great (Alexander of Macedon). Raoul Mortley (1996) has also tried to demonstrate the influence of Aristotelian philosophy on the emergence of the genre, but the survival of less than 5 percent of Hellenistic literature makes the formulation of general explanations difficult. Additionally, it is not always clear whether extant histories might have been parts of universal histories: For example, commentators have argued that the Anabasis Alexandri and Indica of the Roman historian Arrian (c. 92-c. 180 CE) were originally united. Even José Miguel Alonso-Núñez's more inclusive description of the first universal historians as those who dealt "with the history of mankind from the earliest times, and in all parts of the world known to them" is problematic, because it masks the contribution of those—particularly women—who composed biographical catalogues (Alonso-Núñez 1990, 197). While not exhaustive in time or space, biographical catalogues were designed to illuminate universal social, moral, or political principles.

Any history of the field must also take into account the rich tradition of Chinese and Islamic universal history writing, which dates from at least the third century BCE and the ninth century CE respectively. It is likely, too, that the genre of universal history has a relationship with both oral and written creation or initiation stories told by peoples around the world since the foraging era. Universal history, and consequently world history, are thus not simply Western documentary forms bestowed upon the world through diffusion.

Ancient universal history writing flourished after campaigns of political expansion, the advent of standardized systems of chronology, and the spread of monotheistic religions such as Christianity and Islam. Writers followed no single template, and their works varied widely in scope, structure, and world vision. A particular view of universal history might be adopted for a host of reasons, both intellectual and pragmatic. Polybius (c. 203–120 BCE) and Diodorus of Sicily (c. 90–21 BCE), for instance, agreed that the truth of history was to be gleaned by treating it as a connected whole, but whereas Polybius's decision was based on an observation of the spread of Roman power, Diodorus assumed the existence of a universal human nature.

Variations were also evident across cultural and religious groups. For example, as viewed by Eusebius of Caesarea (c. 263–339 CE), St. Augustine of Hippo (354–430), Paulus Orosius (fl. 414–417), and Bishop Otto of Freising (c. 1111–1158), God's work in the world and the victory of Christianity were to be narrated through a seven-age framework that had been adapted from Jewish works like Josephus ben Matthias's *Jewish Antiquities* (93 CE). Islamic writers like Abu Ja'far al-Tabari (c. 839–923) also saw universal history as structured through successive ages, though more commonly three than seven, and infused their accounts of events with predictions of future judgment. Furthermore, these accounts derived their status as universal histories in part because of their construction out of *isnads*: unbroken chains of

There are certain books in the world which every searcher for truth must know: the Bible, the Critique of Pure Reason, the Origin of Species, and Karl Marx's Capital. • W. E. B. Du Bois (1868–1963)

transmission. For many Islamic writers of the Abbasid dynasty (749/750–1258), universal history thus entailed both chronological and historiographical continuity. Exceptions like Abu Al-husayn 'ali ibn Al-husayn Al Mas'udi's (c. 888–957) chronologically, philosophically, and geographically arranged *Muruj adh-dhahab wa ma'adin al-jawahir* (The Meadows of Gold and Mines of Gems) were given a highly critical reception. Later writers eschewed *isnads* as a narrative and methodological intrusion and built upon Al Mas'udi's approach. Ibn Khaldun (1332–1406), for instance, combined philosophy, geography, and social theory in his *Kitab al-'Ibar*.

Chronologically arranged universal histories were also produced in China, as Sima Guang's (1019–1086) Zi Zhi Tong Jian (Comprehensive Mirror to Aid in Government) attests. However it is the synchronic, encyclopedic structure of official Chinese histories that most sets them apart from other historiographical traditions. A four-part division of histories into imperial annals (benji). tables (biao), treatises (shu), and biographies or memoirs (juan or liezhaun) was established by the first four official histories—the Shiji (Records of the Grand Historian) begun by Sima Tan (d. c. 110 BCE) and completed by Sima Qian (145-80 BCE); the Hanshu (History of the Former Han Dynasty) by Ban Gu (32-92 CE); the Sanquozhi (History of the Three Kingdoms) by Chen Shou (d. 297 CE); and the Hou Hanshu (History of the Later Han) by Fan Ye (398–445 CE). The first part of each work documented major events in imperial families; the second, month-to-month events for government offices; the third, knowledge concerning an enormous range of activities; and the fourth, accounts of virtuous and infamous individuals and collective biographies. Though modified, this structure was employed in official histories right up to Qingshi gao (Draft History of the Qing Dynasty, 1928).

# Interactions, Exchange, Universal History, and Unity

The growth of intellectual, economic, and sociopolitical networks of exchange in the foraging and agrarian eras prompted the defense, augmentation, and revision of universal and later world historical views. Labels and typologies were used to bestow respect upon, to accommodate, or subjugate newly encountered peoples. In many European universal histories, for instance, race and gender typologies coalesced in narratives of the stagnation of the effeminate East and the progressive perfection of the masculine West. Some writers used other cultures to make criticisms about their own: To take one example, Voltaire (1694–1778) used the history of China in Essai sur les moeurs et l'espirit des nations (An Essay on Universal History) to highlight the savagery, superstition, and irrationality of Christian Europe. Corresponding examples from outside Europe may also be found, like Wei Yuan (1794–1856), who compared the historical paths of Europe and China in *Haiguo Tuzhi* (Illustrated Treatise on the Sea Kingdom) based on the argument that learning the superior technology of the Europeans could be a means to control them. Universal histories were also used to promote the interests and ideals of particular social groups: For example, Philip Melancthon (1497–1560) and the bishop Jacques-Bénigne Bossuet (1627–1704) saw universal history as an excellent means to defend Christian beliefs. Promoting a different cause, in *The Book* of the City of Ladies (1405), Christine de Pizan narrated a hierarchical universal history of female warriors, good wives, and saintly women to empower female readers to aspire to the city of womanly virtue. Joseph Swetnam, on the other hand, argued in his pamphlet The Arraignment of lewd, idle and froward women (1615) that women are, like the rib that they were fashioned from in the Judeo-Christian creation story, "crooked by nature."

Universal histories proliferated after the aggregation of printing technologies in fifteenth-century Europe. This made decisions on the proper means of researching, writing, and reading them increasingly urgent to many writers. In *Method for the Easy Comprehension of History,* for example, Jean Bodin (1530–1596) advanced the notion that the logical order of universal history was chronological, from the general to the specific, and from Europe outward to the rest of the known world. Misorder, in his view, could weaken the powers of the mind. Conversely, Christopher Cellarius (1638–1707) argued

Citizenship comes first today in our crowded world... No man can enjoy the privileges of education and thereafter with a clear conscience break his contract with society. To respect that contract is to be mature, to strengthen it is to be a good citizen, to do more than your share under it is noble. • ISAIAH BOWMAN (1878–1950)

for the tripartite division of history into "ancient," "medieval," and "new" periods.

# The Philosophical Turn and the Rise of Mass Literacy

Over the course of the seventeenth century more universal historians endeavored to establish a proper 'scientific" or "philosophical" foundation for history. What these terms meant varied from place to place. In Scotland, for instance, "conjectural historians" such as Francis Hutcheson (1694-1746), Adam Smith (1723-1790), Adam Ferguson (1723–1815), John Millar (1735–1801), William Robertson (1721–1793), Dugald Stewart (1753–1828), and David Hume (1711–1776), worked to explain the origin of human sociability, a "moral sense" that would account not only for human community but also for human progress. The Italian scholar Giambattista Vico (1668–1744), on the other hand, saw the Latin language, Roman law, and the Homeric poems as a point of entry into the "scientific" study of the course and recourse of nations' histories. French historians like Fontenelle (1657–1757), Étienne Bonnot de Condillac (1715-1780), the Marquis de Condorcet (1743–1794), Anne-Robert-Jacques de Turgot (1727– 1781), and Jean Étienne Montucla (1725–1799) tracked the history of the "human spirit" or mind from barbaric beginnings to the height of enlightened, mannered "civilization." In Germany, Johann Gottfried von Herder (1744–1803) adopted an organic view, outlining the unique features of cultures in childhood, infancy, manhood, and old age. Immanuel Kant (1724-1804) detected reason in the long history of humanity's "unsocial sociability," Leopold von Ranke (1795–1886) sought the "holy hieroglyph" or mark of God and meaning in world cultures, and Georg Wilhelm Friedrich Hegel (1770–1831) detected "progress of the consciousness of freedom" in the movement of world history from the East to the West (Philosophy of History 1956, 19). Later in the nineteenth century, Karl Marx (1818-1883) inverted Hegel's philosophical program, suggesting that the material conditions of life shape human freedom, not the other way around. Chinese historians, too, including Guo Songtao (1818–1891), Xue Fucheng (1838–1894), Wang Tao (1828–1890), Yan Fu (1854–1921), and Liang Qichao (1873–1929), increasingly urged the recognition of world history as a narrative of struggle for technological supremacy.

Universal histories designed for mass consumption were also produced. Reader, reviewer, and publisher demands for morally edifying works favored the production of overtly didactic texts, often in the form of biographical catalogues. This type of writing proved particularly popular with middle-class women, who were given access to works designed to describe a world order in which women were the domestic companions of men. Notable examples include Mary Hay's Female Biography, or Memoirs of Illustrious and Celebrated Women, of all Ages and Countries (1803); Lucy Aikin's Epistles on Women, Exemplifying Their Character and Condition in Various Ages and Nations with Miscellaneous Poems (1810); Anna Jameson's Memoirs of Celebrated Female Sovereigns (1832); Laure Junot's Memoirs of Celebrated Women (1834); Mary Elizabeth Hewitt's Heroines of History (1852); Sarah Josepha Hale's Woman's Record (1853); Mary Cowden Clarke's World-Noted Women (1858); Sarah Strickley Ellis's The Mothers of Great Men (1859); and Clara Balfour's Women Worth Emulating (1877). While often dismissed as methodologically impoverished, many of these works acted as conduits for womanist and reformist thought. Lydia Maria Child's The History of the Condition of Women, in Various Ages and Nations (1835), for example, is underpinned by arguments against slavery and for female suffrage.

# Universal History as Proto–World History?

From the eighteenth century, existing ideas about universal history came to be seen as increasingly out of step with the specialized national research that accompanied the professionalization of history teaching, research, and writing. Some accommodation was achieved through the production of multiauthor, multivolume universal history compendia or encyclopedias, but this in turn spurred H. G. Wells (1866–1946) to define universal history in



part by the "unity of presentation attainable only when the whole subject has been passed through one single mind" (The Outline of History 1920, 2). It is assumed by many historiographical commentators that Wells's efforts were akin to Canute's attempt to defy the tide. In their view, universal history was a proto-world history that was ushered aside in the twentieth century as speculation was replaced by rigorous forms of analysis and a greater respect for primary evidence. Universal history, however, survives in many forms, such as philosophies of history (e.g., Raymond Aron, The Dawn of Universal History, 1961, and Daniel Dennett, Freedom Evolves, 2002); compendia (UNESCO's History of Humankind, 1963); the fusion of science and history in the subfield of "big" history (Fred Spier, The Structure of Big History, 1996, and David Christian, Maps of Time, 2004); and, of course, encyclopedias such as this.

Universal history did not disappear in the twentieth century; it simply became one of a number of approaches to the writing of what was increasingly called "world history." Roughly contemporary with Wells's Outline of History were Oswald Spengler's The Decline of the West (1918–1922); Sigmund Freud's Civilization and Its Discontents (1930); Arnold J. Toynbee's A Study of History (1932–1961); Jawaharlal Nehru's Glimpses of World History (1934); Lewis Mumford's Technics and Civilization (1934); V. Gordon Childe's Man Makes Himself (1936); Pitirim A. Sorokin's Social and Cultural Dynamics (1937); Norbert Elias's The Civilizing Process (1939); José Karl Polanyi's The Great Transformation (1944); Mary Ritter Beard's Woman as Force in History (1946); Karl Jaspers's The Origin and Goal of History (1947); Ortega y Gasset's An Interpretation of Universal History (1949); and Christopher Dawson's The Dynamics of World History (1956). Though they present a wide range of foci—psychological, religious, political, philosophical, sociological, cultural, archaeological, and technological a common interest in the trajectories of civilizations spans these works. In Spengler's view, for example, Western civilization was "Faustian" because the limitless ambition of its people was likely to be its downfall; similarly, when Toynbee began A Study of History, he detected a

number of suicidal tendencies in Western civilization. During the composition of volume six of twelve, however, he modified his view and concluded that the future would bring an age of universal churches or of selflessness or compassion.

# Modernization, Dependency, and World-System Analyses

A more optimistic assessment of "modern" or "Western" civilization was also offered in the works of modernization scholars, who showed particular interest in the historical paths of development in the West that might be used to study and foster development in the "developing" world. Key contributions to modernization analysis included W. W. Rostow's *How It All Began: Origins of the Modern Economy* (1975); Cyril Black's *The Dynamics of Modernization: A Study in Comparative History* (1966); Reinhard Bendix's *Nation-Building and Citizenship* (1977); and E. L. Jones's *The European Miracle: Environments, Economies, and Geopolitics in the History of Europe and Asia* (1986).

A disparate group of neo-Marxist scholars disagreed, noting the inability of modernization scholars to explain Latin American economic development, and suggested an alternative in the form of dependency and, later, world system theory. While modernization scholars looked to the internal characteristics of particular civilizations, dependency and world system theorists stressed the need to study networks of economic and political exchange, and more particularly inequalities in the distribution of roles, functions, and power that fostered states of dependency. Dependency theory was advanced first in the writings of Latin American scholars like Paul Baran (The Political Economy of Growth, 1957) and then taken to a global audience in Andre Gunder Frank's World Accumulation, 1492–1789 (1978) and Dependent Accumulation and Underdevelopment (1979). Frank's work, in turn, influenced Immanuel Wallerstein, who went on to elaborate world system theory in a series of works including the three-volume The Modern World System (1974–1989) and Historical Capitalism (1983). In The Modern World System, he argued that the system of

The only good is knowledge, and the only evil is ignorance. • Herodotus (484?-430/420 BCE)

the title originated in fifteenth-century Europe, was composed of a "core" (advanced industrial states), a "periphery" (weak states engaged in raw materials production), and a "semi-periphery" (intermediate states).

World-system analysis was combined with a range of methodologies, including anthropology (Eric Wolf, Europe and the People without History, 1982); archaeology (N. Kardulias [editor], World-Systems Theory in Practice: Leadership, Production, and Exchange, 1999); geography (Paul Knox and Peter Taylor, World Cities in a World-System, 1995); and cultural history (John Obert Voll, Islam as a Special World-System, Journal of World History, 1994). The range and scope of world-system studies also increased, with Leften Stavrianos (Global Rift, 1981), Janet Abu-Lughod (After European Hegemony, 1989), Frank (ReOrient, 1997), Frank and Barry Gills (The World System: Five Hundred Years or Five Thousand?, 1993), and Christopher Chase-Dunn and Thomas Hall (Core/Periphery Relations in Precapitalist Worlds, 1991) exploring Afro-Eurasian systems of exchange up to seven thousand years ago.

#### The Relational Shift

Postcolonial scholars also adapted dependency and world system theory. First brought to the attention of world historians with the publication of Edward Said's Orientalism (1978), postcolonial theorists enhanced political and economic criticisms of colonialism with cultural analyses. Representation and language are crucial for the construction of an "other": for example, Marshall Hodgson (Rethinking World History, 1993), Dipesh Chakrabarty (Provincializing Europe, 2000), and Ranajit Guha (History at the Limit of World-History, 2003) argued that the language, concepts, periodization, and structure of world histories can minimize and even mask the historical activities of those "outside" the West. World historians with an interest in postcolonial themes, such as Michael Adas (Islamic and European Expansion, 1993) and Margaret Strobel (Gender, Sex, and Empire, 1993), sought to balance the demands of aligning the experiences of colonized subjects and recognizing the specificities of race, class, nationality, religion, sexuality, epistemic, social, political, and economic hierarchies, and gender relations.

Dependency, world-system, and postcolonial world histories formed part of a wider shift in the twentieth century toward the study of relations between peoples across the globe. This shift is clearly discernable over the long career of William H. McNeill, often taken as a central or "father" figure in twentieth-century world historical studies. While the theme of diffusion shaped his first major world historical work—The Rise of the West (1963)—the depth and breadth of his interest in world historical webs of interaction emerged more fully in Plagues and Peoples (1976), The Pursuit of Power (1982), Keeping Together in Time (1990), and The Human Web (2003, with J. R. McNeill). Human interaction on the largest scale—over the globe—was also the subject of new global historical studies. New global historians like Bruce Mazlish and Ralph Buultiens (Conceptualizing Global History, 1993), Anthony Hopkins (Globalization in World History, 2001), Roland Robertson (Globalization, 1992), Manuel Castells (The Information Age, 1996–1998), and Arjun Appadurai (Modernity at Large, 1996) looked to economic, anthropological, political, and cultural evidence to track the phenomenon of globalization—the emergence of an integrated anthropogenic globe—over the course of the twentieth century.

Transnational, comparative, new imperial, and new world historians were also interested in human interaction, but their works were smaller in spatial and temporal focus than those of other world historians. This contraction may be explained by reference to, among other factors, the perception that the recent explosion in evidence made large-scale synthesis too demanding, and postmodern and postcolonial claims that large-scale narratives were instruments of intellectual imperialism. Of particular interest to these writers were phenomena such as intergovernmental organizations, internationalist movements, technological exchange and diffusion, migration and diasporas, cultural hybridity, and transnational corporations. For example, trade and cultural diasporas



centered on the Mediterranean, Indian, Atlantic, and Pacific Oceans were analyzed by Fernand Braudel (The Mediterranean and the Mediterranean World in the Era of Philip II, 1949); Philip Curtin (The Atlantic Slave Trade, 1969; The Rise and Fall of the Plantation Complex, 1990; Cross-Cultural Trade in World History, 1984); Niels Steensgard (The Asian Trade Revolution of the Seventeenth Century, 1974); K. N. Chaudhuri (Trade and Civilisation in the Indian Ocean, 1985; and Asia before Europe, 1990); Eric Jones, Lionel Frost, and Colin White (Coming Full Circle, 1993); John Thornton (Africa and Africans in the Making of the Atlantic World, 1400–1680, 1992); and Adam McKeown (Chinese Migrant Networks, 2001).

# Widening Views of World History

Relations of power were also of central concern to world historians studying both women and gender. Gender history is not women's history, but rather the study of varying relations between constructed gender categories. For example, Michel Foucault noted the shifting shape of "sexuality" across ancient and modern history (The History of Sexuality, 1976-1984), and Ida Blom has demonstrated how varying gender systems shaped understandings of the nation-state ("World History as Gender History," in Dunn 2000, 446-61). More recently, Marilyn Morris ("Sexing the Survey," World History Bulletin, 1998), Merry Weisner-Hanks (Gender in History, 2001), and Judith Zinsser ("Gender," in Hughes-Warrington 2004, 189-214) have drawn attention to the gender of world history writing, and argued that favored concepts, narrative forms, and even periodization frameworks have served to render the experiences of many women and men invisible.

In the second half of the twentieth century, world histories took an increasing interest in the ways in which the organic and inorganic environment have both shaped and been shaped by human activities. Jared Diamond, for instance, looked to the role of environmental factors in the emergence of the divide between the "developing" and

"developed" worlds (Guns, Germs and Steel, 1998), and Brian Fagan considered the role of climatic phenomena like El Niño in shaping historical events (Floods, Famines and Emperors, 2001). In contrast, Mike Davis stressed the opportunistic use of El Niño by colonial powers to create a world market economy (Late Victorian Holocausts, 2001), and John R. McNeill outlined growing awareness of the impact of human activities on the earth, from the pedosphere (the earth's continental crust, rocks and soil) to the stratosphere (Something New Under the Sun, 2000). Other writers have drawn upon conceptual models and theories from the natural sciences to explain historical changes: for example, in Nonzero (2000), Robert Wright looked to game theory; Stephen J. Gould (Wonderful Life, 1989) and Murray Gell Mann (The Quark and the Jaguar, 1994) disagreed about whether evolution implied increasing complexity; and Eric Chaisson tracked increasing energy flows from the big bang to the evolution of humans (Cosmic Evolution, 2000). More radically, too, writers like Dorion Sagan and Lynn Margulis (Microcosmos, 1986) even questioned the privileging of human actions and argued for a world history centered on cells.

# World History: Professional and Popular

While the twentieth century saw the emergence of organizations, journals, conferences, Internet discussion forums, and syllabi focused on world history, the field was not and likely will never be of interest to trained specialists alone. John M. Roberts (*The New Penguin History of the World*, 2003) and Mark Kurlansky (*Salt: A World History*, 2002) are just two of the many writers who have produced world historical works for the benefit of nonspecialist readers around the world. World history is and likely will continue to be characterized by multiplicity: first, in the use of data from different times and places; second, in the blending of many methods from a broad range of disciplines; third, in the diverse backgrounds, assumptions, and world orders of authors; and finally, in the mixture of narrative styles and organizational

# Excerpt from Christine de Pizan's The Book of the City of Ladies (1405)

Educated by her father, an advisor to King Charles V of France, Christine de Pizan (c. 1365-c. 1430) began writing to support herself and her children when she was widowed at age twenty-five. Her body of work included poetry, novels, short stories, and histories. In the extract below, de Pizan explains how she came to write The Book of the City of Ladies.

Here begins the book of the City of Ladies, whose first chapter tells why and for what purpose this book was written. In accordance with the habit and discipline which govern my life-occupied that is, with the tireless study of the liberal arts—I was sitting alone one day in my study surrounded by books on the most diverse subjects. Since my mind was a little tired from the effort of obtaining the knowledge of so many authors, I looked up from my book, having decided to leave this research for a moment and relax by reading some light poetry. While I was in this state of mind, a strange little book came into my hands, not one of my own, but one which had been left here by someone else along with some others. When I opened it and saw from its title page that it was the lamentations of Matheolus, I smiled, for though I had never seen it before, I had often heard that it was complimentary to women. I thought I would browse through it to amuse myself. I had not been reading for very long when my good mother called me to supper, for it was evening. Intending to look at it the next day, I put it down for the time being. The next morning, again seated in my study as was my habit, I remembered wanting to examine this book by Matheolus. I started to read it and went on for a little while. But the subject seemed to me not very pleasant for people who do not enjoy gossip, and of no use in developing virtue or manners, given its indecent language and subject matter; after browsing here and there and reading the end, I put it down in order to turn my attention to more elevated and useful study. But even then the mere sight of this book, even though it was of no authority, plunged me into reveries which profoundly disturbed me. I wondered how it happened that so many different men-and learned men among them—have been so inclined to express both in speaking and writing so many wicked insults about women and their behavior. Not only

concepts. For this reason, it makes sense to speak of "world histories" rather than of "world history."

Marnie Hughes-Warrington

See also Child, Lydia; Comparative History; Creation Myths; Eurocentrism; Herodotus; Ibn Khaldun; Orientalism; Periodization, Conceptions of; Postcolonial Analysis; Postmodernism; Sima Qian; Women's and Gender History; and World-System Theory.

# **Further Reading**

Alonso-Núñez, J. M. (1990). The emergence of universal historiography from the 4th to the 2nd centuries BC. In H. Verdin, G. Schepens, & E. de Keyser (Eds.), Purposes of history in Greek historiography from the fourth to the second centuries BC. Leuven, Belgium: Orientaliste.

Alonso-Núñez, J. M. (2001). The idea of universal history in Greece: From Herodotus to the age of Augustus. Amsterdam: JC Gieben.

Bentley, J. (1996). Shapes of world history in twentieth-century scholarship. Washington, DC: American Historical Association.

Breisach, E. (1994). Historiography: Ancient, medieval and modern. Chicago: University of Chicago Press.

Burke, P. (1985). European views of world history from Giovo to Voltaire. History of European Ideas, 6(3), 237-251.

Chakrabarty, D. (2000). Provincializing Europe: Postcolonial thought and historical difference. Princeton, NJ: Princeton University Press.

Clarke, K. (1999). Between geography and history: Hellenistic constructions of the Roman world. Oxford, UK: Oxford University Press.

Costello, P. (1994). World historians and their goals: Twentiethcentury answers to modernism. DeKalb: Northern Illinois University Press.

Dirlik, A., Bahl, V., & Gran, P. (Eds.). (2000). History after the three worlds: Post-Eurocentric historiography. Lanham, MD: Rowman and

Dumont, G.- H. (2001). UNESCO history of humanity: Description of the project. Retrieved July 5, 2004, from http://www.unesco.org/ culture/humanity/html\_eng.projet.html

Dunn, R. (Ed.). (2000). The new world history: A teacher's companion. New York: St. Martin's Press.

Geyer, M., & Bright, C. (1987). World history in a global age. American Historical Review, 100, 1034-1060.

one or two and not even just this Matheolus (for this book was not a learned work, but only satire) but more generally, judging from the treatises of all philosophers and poets and from all the orators. . . it seems that they all speak with one and the same voice. They all concur in one conclusion: that women are fundamentally evil and inclined to vice. Thinking deeply about these matters, I began to examine my character and conduct, since I was born a woman, and similarly, I considered other women whose company I frequently kept, princesses, great ladies, women of the middle and lower classes, who had graciously told me of their most private and intimate thoughts, hoping that I could judge impartially and in good conscience whether the testimony of so many notable men could be erroneous. To the best of my knowledge, no matter how long I confronted or dissected the problem, I could not see or realize how their judgments or the nature and behavior of women could be well founded.

Source: de Pizan, C. (1405). The book of the city of ladies (Book I). Retrieved August 30, 2004, from http://www.aug.edu/langlitcom/humanitiesHBK/handbook\_htm/pizan\_city\_ladies.htm

Guha, R. (2002). History at the limit of world-history. New York: Columbia University Press.

Hegel, G. W. F. (1956). The Philosophy of History (J. Sibree, Trans.). New York: Dover. Hodgson, M. (1993). Rethinking world history: Essays on Europe, Islam and world history (E. Burke III, Ed.). Cambridge, UK: Cambridge University Press.

Hughes, J. D. (2002). Bibliographic essay: Writing on global environmental history. In An environmental history of the world. London: Routledge.

Hughes-Warrington, M. (2002). Big history. Historically Speaking, 4(2), 16-17, 20.

Hughes-Warrington, M. (Ed.). (2004). World histories. London: Palgrave Macmillan.

Hughes-Warrington, M. (2005). World history. In M. Spongberg, B. Caine, & A. Curthoys (Eds.), *The Palgrave companion to women's historical writing*. London: Palgrave Macmillan.

H-World (Internet discussion group). Accessed July 5, 2004, at http://www.h-net.msu.edu/~world/

The Journal of World History, vol. 1, 1990-

Manning, P. (2003). Navigating world history: Historians create a global past. New York: Palgrave.

Mazlish, B., & Buultjens, R. (Eds.). (1993) Conceptualizing global history. Boulder, CO: Westview.

Momigliano, A. (1978). Greek historiography. *History and Theory*, 17(1), 1–28.

Mortley, R. (1996). The idea of universal history from Hellenistic philosophy to early Christian historiography. Lewiston, NY: Edwin Mellon.

Pomper, P., Elphick, R., & Vann, R. (Eds.). (1998). World history: Ideologies, structures, identities. Malden, MA: Blackwell.

Robinson, C. (2003). *Islamic historiography*. Cambridge, UK: Cambridge University Press.

Schneide, A., & Schwierdrzik, S. W. (Eds.). (1996). Chinese Historiography in Comparative Perspective [Special Issue]. *History and Theory*, 35(4).

Steensgaard, N. (1973). Universal history for our times. Journal of Modern History, 45, 72–82.

Stuchtey, B., & Fuchs, E. (2003). (Eds). Writing world history 1800–2000. Oxford, UK: Oxford University Press.

Wells, H. G. (1920). The Outline of History. London: George Newnes.World History Connected: The EJournal of Learning and Teaching.Retrieved July 5, 2004, from http://www.worldhistoryconnected.org





# Yijing

The Chinese text *Yijing*, also known as the *I Ching* or *Book of Changes*, exemplifies the process by which great and enduring philosophical and religious texts (classics) evolve in one cultural environment and are then transmitted to, and often transformed by, other environments. Originating in China as a primitive divination text three thousand years ago, the *Yijing* found its way to many parts of eastern Asia from about the sixth century CE onward. Beginning in the seventeenth century, it traveled to Europe and eventually the Americas. Today, translated into several dozen languages, the *Yijing* continues to be consulted by millions of people throughout the world.

What sort of a text is the *Yijing*, and how did it come to exert such a pervasive global influence? The ancient "basic text" consists of sixty-four six-line symbols known as "hexagrams" (gua). The theory of the *Yijing* is that these hexagrams represent the basic circumstances of change in the universe and that by consulting the text with a reverent spirit, one can select a hexagram that will provide guidance for the present and the future.

Each hexagram has a name (guaming) that refers to a physical object, an activity, a state, a situation, a quality, an emotion, or a relationship; thus Ding (Cauldron), Dun (Retreat), Meng (Youthful Ignorance), Yu (Enthusiasm), Song (Conflict), Tongren (Human Fellowship), and so forth. In addition, each hexagram possesses a short, cryptic description of several words, called a "judgment" (tuan or guaci). Finally, each line of every hexagram has a brief written explanation (yaoci) of that line's developmental



position and symbolism. Through a sophisticated analysis of line relationships and other variables, a person could not only "know fate" (*zhiming*) but also "establish fate" (*liming*)—that is, devise a successful strategy for dealing with any cosmically mandated situation.

# The "Ten Wings"

During the early Han dynasty (206 BCE–220 CE) a set of poetic commentaries known as the "Ten Wings" became permanently attached to the *Yijing*, and the text received imperial sanction as one of the five major Confucian classics. These Ten Wings—particularly the so-called Great Commentary (*Dazhuan* or *Xici zhuan*)—articulated the *Yijing*'s implicit cosmology (a branch of metaphysics that deals with the nature of the universe) and invested the classic with a new philosophical flavor and an attractive literary style. The worldview of this amplified version of the *Yijing* emphasized correlative thinking, a humane cosmological outlook, and a fundamental unity between heaven, Earth, and people. For the next two thousand years or so the *Yijing* held pride of place in China as the "first of the [Confucian] classics."

In the fashion of classic texts in other major civilizations, the *Yijing* had a profound effect on Chinese culture from the Han dynasty to the end of the imperial era (1912 CE) in areas such as philosophy, religion, art, literature, political life, social customs, and even science. Thinkers of every philosophical persuasion—Confucians, Daoists, and Buddhists alike—found inspiration in the language, symbolism, imagery, cosmology, epistemology (the study or a theory of the nature and grounds of knowledge), ontology (a branch of metaphysics con-

cerned with the nature and relations of being), and ethics of the *Yijing*. The *Yijing* also inspired a landslide of artistic and literary productions and provided an analytical vocabulary that proved extraordinarily serviceable in a wide variety of realms. During premodern times Chinese "scientists" used hexagram symbolism and *Yijing*-derived numerology (the study of the occult significance of numbers) and mathematics to explain a wide range of natural processes and phenomena in fields of knowledge that are today's physics, astronomy, chemistry, biology, meteorology, and geology.

The Yijing's great prestige and multifaceted cultural role in China commended it to a number of civilizations on the Chinese periphery—notably, Korea, Japan, Vietnam, and Tibet. In all of these environments the Yijing enjoyed an exalted reputation and was employed in a variety of cultural realms. Not surprisingly, through time the Yijing came to be used and understood in ways that reflected the particular needs and interests of the "host" environment, and in the process the Yijing became less of an alien "Chinese" document and more of a "domestic" one. Thus, for example, its symbolism came to be used in Japan to express distinctively Japanese sensibilities, such as those connected with the tea ceremony and flower arranging. This process of domestication also allowed a scholar such as Jiun Sonja (1718–1804), who claimed that "every word of the Ekikyo [Yijing] is interesting and significant," to argue that "the whole book has been completely borrowed [by the Chinese] from us [the Japanesel" (Ng 2000, 107).

Similar processes of appropriation and adaptation took place in the West. A group of seventeenth-century

# From Carl Jung's Foreword to the I Ching

As a man of science, Swiss psychiatrist Carl Jung (1875–1961) seems a curious choice to write a foreword to the 1949 edition of the I Ching (Yijing). However, as he explains in the excerpt below, "chance" is a powerful influence that should not be ignored.

I do not know Chinese and have never been in China. I can assure my reader that it is not altogether easy to find the right access to this monument of Chinese thought, which departs so completely from our ways of thinking. In order to understand what such a book is all about, it is imperative to cast off certain prejudices of the Western mind. It is a curious fact that such a gifted and intelligent people as the Chinese has never developed what we call science. Our science, however, is based upon the principle of causality, and causality is considered to be an axiomatic truth. But a great change in our standpoint is setting in. What Kant's Critique of Pure Reason failed to do, is being accomplished by modern physics. The axioms of causality are being shaken to their foundations: we know now that what we term natural laws are merely statistical truths and thus must necessarily allow for exceptions. We have not sufficiently taken into account as yet that we need the laboratory with its incisive restrictions in order to demonstrate the invariable validity of natural law. If we leave things to nature, we see a very different picture: every process is partially or totally interfered with by chance, so much so that under natural circumstances a course of events absolutely conforming to specific laws is almost an exception.

The Chinese mind, as I see it at work in the *I Ching*, seems to be exclusively preoccupied with the chance aspect of events. What we call coincidence seems to be the chief concern of this peculiar mind, and what we worship as causality passes almost unnoticed. We must admit that there is something to be said for the immense importance of chance. An incalculable amount of human effort is directed to combating and restricting the nuisance or danger represented by chance. Theoretical considerations of cause and effect often look pale and dusty in comparison to the practical results of chance.

Jesuit priests known as "Figurists" made the earliest effort to bring the *Yijing* to the attention of Europeans (and at the same time to bring the Bible to the attention of the Chinese). The most prominent among these priests was Father Joachim Bouvet (c. 1660–1732). A significant part of the Figurist mission was to show, by fancy philological (relating to the study of literature and of disciplines relevant to literature or to language as used in literature) footwork, that the Bible and the *Yijing* were umbilically related. Thus, for instance, the three unbroken lines of the Qian (Heaven) trigram indicated an early Chinese awareness of the Trinity, and the hexagram Xu (Waiting), with its stark reference to "clouds rising up to Heaven," symbolized the "glorious ascent of the Saviour." Bouvet's correspondence with the German mathematician Wilhelm Gottfried von Leibniz (1646–1716) led Leibniz to see striking similarities in the configuration of the "broken" and "unbroken" lines of the hexagrams in the Yijing and his own binary mathematical system.

In more recent times efforts to find a place for the *Yijing* in Western culture have continued unabated. During the 1960s in particular translations of the book appeared in many parts of the Western world (and elsewhere), embraced by countercultural enthusiasts alienated from their own political, social, and philosophical traditions and searching for fresh answers to timeless or pressing questions. Meanwhile, creative thinkers in the arts and the sciences have used the *Yijing* either as inspiration or as a transcultural validation of their own original ideas.

# Influence on the West

The *Yijing* thus influenced many realms of modern Western life, from the psychology of Carl Jung to the architecture of I. M. Pei. The choreographers Merce Cunningham and Carolyn Carlson have found inspiration in the *Yijing*, as have such noted composers as John Cage and Udo Kasemets. It has been a significant element in the art of

# Extract from the Yijing (Book I, Part II)

# THE JUDGMENT

INNER TRUTH. Pigs and fishes. Good fortune. It furthers one to cross the great water. Perseverance furthers.

Pigs and fishes are the least intelligent of all animals and therefore the most difficult to influence. The force of inner truth must grow great indeed before its influence can extend to such creatures. In dealing with persons as intractable and as difficult to influence as a pig or a fish, the whole secret of success depends on finding the right way of approach. One must first rid oneself of all prejudice and, so to speak, let the psyche of the other person act on one without restraint. Then one will establish contact with him, understand and gain power over him. When a door has thus been opened, the force of one's personality will influence him. If in this way one finds no obstacles insurmountable, one can undertake even the most dangerous things, such as crossing the great water, and succeed.

But it is important to understand upon what the force inner truth depends. This force is not identical with simple intimacy or a secret bond. Close ties may exist also among thieves; it is true that such a bond acts as a force but, since it is not invincible, it does not

bring good fortune. All association on the basis of common interests holds only up to a certain point. Where the community of interest ceases, the holding together ceases also, and the closest friendship often changes into hate. Only when the bond is based on what is right, on steadfastness, will it remain so firm that it triumphs over everything.

### THE IMAGE

Wind over lake: the image of INNER TRUTH. Thus the superior man discusses criminal cases In order to delay executions.

Wind stirs water by penetrating it. Thus the superior man, when obliged to judge the mistakes of men, tries to penetrate their minds with understanding, in order to gain a sympathetic appreciation of the circumstances. In ancient China, the entire administration of justice was guided by this principle. A deep understanding that knows how to pardon was considered the highest form of justice. This system was not without success, for its aim was to make so strong a moral impression that there was no reason to fear abuse of such mildness. For it sprang not from weakness but from a superior clarity.

Source: Wilhelm, R. (Trans.). (1967). *The I Ching or Book of Changes* (C. F. Baynes, Trans.; Book I, Part II, 61 [Chung fu/Inner Truth). Princeton, NJ: Princeton University Press.

people such as Eric Morris and the writings of a wide range of Western authors, including Philip K. Dick, Allen Ginsberg, Octavio Paz, Raymond Queneau, and Fritjof Capra. In the realm of "pop" culture the *Yijing* has served as a vehicle for the expression of a wide array of ideologies, outlooks, and orientations, from feminism (A Woman's I Ching) to sports (Golf Ching).

We may assume that the *Yijing* will continue to inspire creativity, in both East and West, for the same reasons it has inspired creativity in the past: its challenging and ambiguous basic text, which encourages interpretive ingenuity; its elaborate numerology and other forms of symbolic representation; its utility as a tool of divination; its philosophically sophisticated commentaries; its psychological potential (as a means of attaining self-knowledge);

and its reputation for a kind of encyclopedic comprehensiveness. For those people who take the text seriously and approach it with intellectual depth and psychological insight, it will no doubt remain a stimulating document; then again, those people of a shallower intellectual or psychological disposition may put the *Yijing* to more superficial uses. In the words of a Chinese proverb, "The shallow man sees [the *Yijing*'s] shallowness, while the deep man sees [its] depth."

Richard J. Smith

# **Further Reading**

Adler, J. (Trans.). (2002). Introduction to the study of the Classic of Changes (I-hsüeh ch'i-meng). New York: Global Scholarly Publications.

My grandfather once told me that there were two kinds of people: those who do the work and those who take the credit. He told me to try to be in the first group; there was much less competition. • Mohandas Gandhi (1869–1948)

Hacker, E., Moore, S., & Patsco, L. (Eds.). (2002). I Ching: An annotated bibliography. London: Taylor and Francis.

Henderson, J. B. (1984). The development and decline of Chinese cosmology. New York: Columbia University Press.

Jullien, F. (1993). Figures de l'immanence: Pour une lecture philosophique du Yi King, le classique du changement [Figures of immanence: For a philosophical reading of the Yi King or classic of changes]. Paris: Grasset.

Lynn, R. J. (Trans.). (1994). The Classic of Changes: A new translation of the I Ching as interpreted by Wang Bi. New York: Columbia University Press.

McCaffree, J. E. (1982). Bible and I Ching relationships. Seattle, WA: South Sky Book Co.

Ng, B. W. (2000). *The I Ching in Tokugawa thought and culture*. Honolulu, HI: University of Hawaii Press.

Nielsen, B. (2003). A companion to Yijing numerology and cosmology: Chinese studies of images and numbers from Han (202 BCE-220 CE) to Song (960–1279 CE). London: Routledge Curzon.

Rule, P. (1987). K'ung-tzu or Confucius?: The Jesuit interpretation of Confucianism. London: Allen and Unwin.

Ryan, J. A. (1996, January). Leibniz's binary system and Shao Yong's Yijing. Philosophy East and West, 46(1), 59–90.

Smith, R. J. (1998, Winter). The place of the *Yijing* (Classic of Changes) in world culture: Some historical and contemporary perspectives. *Journal of Chinese Philosophy*, 391–422.

Smith, R. J. (2003, Autumn). The *Yijing* (Classic of Changes) in global perspective: Some pedagogical reflections. *Education about Asia*, 8(2), 5–10.

Wilhelm, R. (Trans.). (1967). *The I Ching or Book of Changes* (C. F. Baynes, Trans.). Princeton, NJ: Princeton University Press.

# **Yongle Emperor**

(1360 - 1424)

Third emperor of China's Ming Dynasty

The Yongle emperor (reigned 1402–1424) of the Ming dynasty (1368–1644) was one of the most dynamic and aggressive rulers of China. Committed to ventures on a grand scale, he influenced China and East Asia for generations to come. He extended Chinese power to Mongolia and Vietnam, dispatched great maritime expeditions to the Indian Ocean, launched massive literary projects that shaped the culture of the Chinese elite, reorganized the imperial bureaucracy, and constructed a new imperial capital.

Yongle (actually his reign title, though it is the name he is most frequently known by; the family name of the rulers of the Ming was Zhu and Yongle's personal name was Di) originally was not destined for the imperial throne, how-

ever. His father, the Hongwu emperor (reigned 1368–1398), the founder of the Ming dynasty, designated his eldest grandson as his successor. But the Jianwen emperor (reigned 1398–1402), Yongle's nephew, lacked Yongle's shrewdness and military expertise. Within a year of Hongwu's death, Zhu Di rebelled against Jianwen and led his troops to victory over the emperor's forces. In all likelihood, Jianwen died when the imperial palace in Nanjing caught fire. At the age of forty-two, Zhu Di ascended the throne on 17 July 1402 as the Yongle (Perpetual Happiness) emperor.

Historians generally agree that Yongle's reign represents a second founding of the Ming dynasty, a significant transformation of policies established by Hongwu. Like his father, Yongle distrusted the Confucian scholar-officials who headed his bureaucracy; but, in the interest of stable rule, he restored ministries that Hongwu had abolished and allowed civil officials considerable independence in daily affairs. He moved the capital to Beijing, near his northern power base, and employed 1 million workers in its reconstruction, which included the building of the Forbidden City, now the principal relic from his reign. To bolster civil officials in the capital and provinces, Yongle ordered the compilation of two compendia of texts and commentaries of Confucian classics that became standard works for preparing for the civil-service examinations. He also commanded more than two thousand scholars to produce The Great Encyclopedia, a compilation of accumulated knowledge that ran to about eleven thousand volumes (or 50 million words). Gargantuan in scale, it proved so expensive to reproduce that large parts of it were lost long after its completion in 1408.

In his government reforms and literary projects, Yongle performed as a traditional Chinese sovereign. But in his foreign policy, he employed military commanders and the burgeoning eunuch establishment. He was a warrior, matched only by Khubilai Khan (reigned 1260–1294), the first emperor of the Yuan dynasty (1279–1368) in his militarism. Commanding armies some 200,000 men strong, he invaded the steppes repeatedly after 1410, inflicting defeats on Mongol khans three times though he was unable to duplicate certain successes. These cam-



paigns wore him out, and he died retreating from Mongolia in 1424. Relying on his offensive policy, he withdrew military posts on the northern border that had been established by Hongwu, leaving China vulnerable to attack in the absence of an emperor as warlike as himself. To some extent, the defensive perimeter of the Great Wall, a late Ming construction, was a consequence of Yongle's bellicose military strategy more than a century earlier.

In 1406, Yongle ordered an expeditionary force of 200,000 men to invade Annan (in present-day northern Vietnam), an audacious attempt to incorporate the area into the empire. Successful for a time, Chinese aggression eventually provoked native resistance, and Yongle found his armies harassed by guerrilla warfare. After twenty years of casualties and expense, the Chinese were driven out by 1427. At the same time as the Vietnam imbroglio, Yongle took the action for which he is now most famous: He dispatched the largest maritime expeditions the world had ever seen. From 1405 to 1424, six fleets, sometimes comprising 200 ships and as many as 28,000 men, sailed to Southeast Asia, India, Iran, Arabia, and East Africa. Commanded by the famous eunuch-admiral Zheng He (1371–1435), the expeditions were simultaneously displays of Chinese majesty, attempts to impose Chinese suzerainty (especially in maritime Southeast Asia), and commercial ventures aimed at suppressing private Chinese seaborne trade.

On all fronts—Mongolia, Vietnam, the voyages of Zheng He, the reconstruction of Beijing—Yongle vastly overextended Chinese resources, draining the treasury and causing widespread discontent. He ruled with an iron fist, putting his extraordinary ventures in the hands of military men and eunuchs, groups repugnant to the Confucian elite. He left the empire weakened before Mongol attacks; he stimulated a Vietnamese nationalism that soon proved deadly to neighboring kingdoms; and he insured that no future emperor would seek to dominate the southern seas. Autocratic, resolute, and daring, Yongle had a brilliant reign but left his successors a troubling legacy.

Robert Finlay

See also China

# **Further Reading**

Chan, D. B. (1976). The usurpation of the prince of Yen, 1398–1402. San Francisco: Chinese Materials & Research Aids Service Center.

Chan, H. (1988). The Chien-wen, Yung-lo, Hung-hsi, and Hsuan-te reigns, 1399–1435. In F. W. Mote & D. Twitchett (Eds.), The Cambridge history of China: Vol 7. The Ming dynasty, 1368–1644, part 1 (pp. 182–304). Cambridge, UK: Cambridge University Press.

Dreyer, E. (1982). Early Ming China: A political history, 1355–1435. Stanford, CA: Stanford University Press.

Farmer, E. (1976). Early Ming government: The evolution of dual capitals (Harvard East Asian Monographs No. 66). Cambridge, MA: Harvard University Press.

Zheng He Zhu Yuanzhang Zimbabwe, Great Zionism Zoroastrianism

# **Zheng He**

(13712-1435)

Admiral and diplomat of China's Ming dynasty

heng He commanded seven great maritime expedi-Litions dispatched by emperors of China's Ming dvnastv (1368–1644) to Southeast Asia, India, Iran, Arabia, and East Africa between 1405 and 1433. The fleets were launched by the Yongle emperor (reigned 1402–1424), although the last expedition in 1431 was ordered by the Xuande emperor (reigned 1426–1435). Yet Zheng He, an imperial servant and Muslim eunuch, eventually became more renowned than those formidable sovereigns. He is regarded as a tutelary deity in Indonesia, as a folk-hero in fiction of the Qing dynasty (1644– 1911), as an exemplary patriot in textbooks of the People's Republic of China, and as the Chinese counterpart of Vasco da Gama (c. 1460–1524) and Christopher Columbus (1451-1506) in modern studies of world history. A recent work even makes the fantastic claim that his captains discovered and colonized America and Australia in 1421.

A native of Yunnan in southwestern China, Ma He (as Zheng was born) traced his descent from Sayyid Ajall (c. 1210–1279), a Muslim from Bukhara (in contemporary Uzbekistan) who governed the province for Khubilai Khan (reigned 1260–1294), founder of the Yuan dynasty (1279–1368). When the Ming conquered Yunnan in 1381, the eleven-year-old Ma was among many boys castrated and enrolled in the eunuch estab-



lishment of the dynasty. Enterprising and competent, Ma commanded troops under the future Yongle emperor. As a reward for Ma's valor in a crucial encounter, the emperor gave him the name *Zheng*, the name of the battle site.

When the emperor commissioned his maritime expeditions, he placed Zheng He in command, entrusting him with the powers of a viceroy. Typically comprising some 200 ships and 28,000 men, the fleets indisputably were the greatest the world had ever seen and included the largest wooden ships ever built. But debate persists about everything else, such as the dimensions of the biggest vessels, called treasure ships, the nature of the navigation charts employed, and the timing and destinations of particular voyages. Above all, there is no consensus on the purpose of the mammoth expeditions. In part, confusion and mystery surrounds them because of the opposition they encountered among Confucian scholar-officials of the empire, a powerful group that deplored the eunuchs in control of the fleet. In 1477, when a prominent eunuch administrator proposed a renewal of the voyages, Confucian ministers ordered destruction of the records of the Yongle venture.

While this was a grave loss to history, the ambitions of the Yongle emperor suffice to explain the task he gave Zheng He. Having usurped the throne from his nephew, the Jianwen emperor (reigned 1398–1402), Yongle sought a warrant of legitimacy by enrolling tribute clients abroad, a task made effortless by display of aweinspiring force. An aggressive and militaristic ruler, he led five campaigns against Mongol khans and, in 1406, he ordered the invasion of Vietnam. The fleets comple-

mented this last endeavor, with the Ming sovereign curbing the power of kingdoms in Java and Thailand while also providing an umbrella of protection over the port of Melaka and those of the northern Javanese coast. Given his large and experienced army, Zheng He naturally met little opposition. In 1407, he intervened in a struggle for power in the Majapahit kingdom of Java, and soon after, his troops destroyed ten pirate ships and killed numerous followers of Chen Zuyi, the Chinese chieftain of Palembang in Sumatra. In 1411, Zheng fought off an attack by Vira Alakasvara, the monarch of Sri Lanka (Ceylon), and shipped the hapless ruler to captivity in China.

These forceful actions cannot be separated from the commercial dimensions of Zheng He's voyages. In the interests of imperial security, Yongle aspired to suppress Chinese private seaborne trade; hence Zheng's ships came loaded with Chinese commodities, especially silk and porcelain, goods to be sold to eager customers as well as gifts to be bestowed on compliant rulers. The junks returned to China laden with black pepper, spices, sandalwood, precious stones, Indian cottons, and exotic animals (especially giraffes and elephants).

Whether acting as admiral of the fleet, troop commander, or trade commissioner, Zheng invariably was an agent of Yongle, not an adventurous explorer in search of new sea routes and undiscovered lands. Less significant in world history than Columbus or da Gama, Zheng loyally and capably obeyed the will of his sovereign. After Yongle died, there was only one more expedition, ordered by Xuande to take tribute envoys back to their kingdoms. In all likelihood, Zheng He died on this

final voyage, and he perhaps is buried near Nanjing, not far from where his treasure ships departed for the southern seas.

Robert Finlay

See also China; Exploration, Chinese; Maritime History

# Further Reading

Fei Xin. (1996). Hsing-ch'a-sheng-lan: The overall survey of the Star Raft (J. V. G. Mills, Trans. & R. Ptak, Ed.). Weisbaden, Germany: Otto Harrassowitz.

Finlay, R. The treasure-ships of Zheng He: Chinese maritime imperialism in the age of discovery. *Terrae Incognitae: The Journal for the History of Discoveries*, 23, 1–12.

Levathes, L. (1994). When China ruled the seas: The treasure fleet of the Dragon Throne, 1405–1433. New York: Oxford University Press.

Lo, J. (1976). The termination of the early Ming naval expeditions. In J. B. Parsons (Ed.), Papers in honor of Professor Woodbridge Bingham, a Festschrift for his seventy-fifth birthday (pp. 127–140). San Francisco: Chinese Materials Center.

Ma Huan. (1970). Ying-yai sheng-lan: The overall survey of the ocean's shores [1433]. (J. V. G. Mills, Ed. & F. Ch'eng-chün, Trans.). Cambridge, UK: Cambridge University Press.

Needham, J. (1971). Science and civilisation in China: Vol. 4. Physics and physical technology: Part 3. Civil engineering and nautics. Cambridge, UK: Cambridge University Press.

# Zhu Yuanzhang

(1328 - 1398)

Founder of China's Ming dynasty

Zhu Yuanzhang, the founding emperor of the Ming (Bright or Radiant) dynasty (1368–1644), reigned from 1368 to 1398 with the reign title Hongwu (Vast Military Power); his posthumous abbreviated title is Taizu (Grand Progenitor).

Zhu Yuanzhang was the third son of an impoverished peasant family living in Haozhou county along the Huai River in present-day Anhui province. When he was a teenager, a combination of drought and plague carried off his parents and oldest brother, leaving him destitute. Neighbors helped him find refuge at a Buddhist temple, where he became a monk. But after a few weeks the

temple ran out of food and he was forced to leave and go begging in the countryside.

For three years the famished and unprepossessing youth roamed around east central China observing the effects of famine and dynastic breakdown on farming people. During that time he became associated with the subversive Red Turban movement, whose goal was the overthrow of the Mongol Yuan dynasty (1279–1368). He then returned to his temple and worked on improving his reading and writing skills. In 1352, when government forces burned down the temple, he joined a Red Turban rebel unit. Rising rapidly through the ranks, he assembled a fighting force and branched out on his own. He developed a base in the lower Chang (Yangtze) River region and in 1356 captured the strategic city now called Nanjing.

During this period of civil war Zhu built up his armed forces, attracted scholars to his side, and established himself as an imperial contender. Thanks to growing popular support and outstanding military aides he was able to defeat all other claimants and become the only supreme ruler in Chinese history to rise to power from a destitute background. In 1368 he declared himself emperor. Before the year was out his forces had driven the Mongol rulers out of their capital (present-day Beijing) and sent them fleeing back to Mongolia.

As emperor Zhu established a harsh but powerful autocracy. He had risen to the top through military power and iron discipline. He recognized the need to rely on the educated elite to install a civilian regime. But as a once destitute peasant he maintained a seething distrust of such people, and as a contender for power he was suspicious of opposition and ready to suppress it at all costs. His thirty-year reign was characterized by two radical policies: first, the most far-reaching and innovative agrarian reforms prior to those instituted by Mao Zedong in the mid-twentieth century, and second, a despotic control of government characterized by bloodthirsty and terrifying purges.

As an agrarian reformer, the new emperor was driven by the desire to restore peace and production to the rural Earth provides enough to satisfy every man's need, but not every man's greed. • Mohandas Gandhi (1869–1948)

people. More than any other ruler before his time, Zhu identified with peasants and sought to ameliorate their lives. Throughout the north China plain he moved hundreds of thousands of people, many of them stranded by the civil war, back onto abandoned land. In 1374 alone 140,000 households from eastern China were resettled in the emperor's native region. Then he initiated intensive surveys of the tax and landholding systems in this prime agricultural region. The tax information was recorded in yellow-bound registers and the landholding information in "fish scale" registers, so named because of the contours of the land charts. These registers, copies of which were maintained in central and local government offices, constituted the most thorough land survey in China prior to modern times. Although comparable to the Domesday survey carried out across England in the eleventh century by William the Conqueror, they were far larger in scope and consequence.

In addition the emperor installed a method of rural fiscal government, known as the *li-jia* system. Under this system, households were organized into groups of 110, representing a *li* (administrative neighborhood). The ten wealthiest families were appointed to serve annually as leaders of the administrative neighborhood (li). The remainder were divided into ten jia (units of ten families). Each of these jia families also served annually as head of their jia. Small family units were included as add-ons. Later in his reign the emperor introduced an overlapping system of neighborhood elders (*li-lao*) to handle local disputes and offenses and punish mischief-makers.

The main aim of all this rural surveying and organization was to equalize the land and labor tax burden and get registration and collection of taxes out of the hands of rapacious bureaucrats and into those of producers. The neighborhood elder system was intended to prevent local officials from exploiting crime as a source of income and patronage. Elders were required to uphold social values (such as respecting and honoring one's parents), and to promote agricultural work and water conservation. If they had complaints, they were authorized to visit Nanjing and report them in person. An important piece of

this agrarian policy was the establishment of agricultural colonies to support the emperor's military forces, thus ensuring that the latter would not be dependent on the rural fiscal system. Throughout his reign the emperor continued to refine these initiatives.

Emperor Taizu's harsh policies toward officials and educated people grew out of his experience of oppression and hardship as a youth. As ruler of all under heaven he deplored waste and hated ostentation. When a serious drought struck eastern China shortly after his accession, he clothed himself in white mourning dress and straw shoes and prayed for several days out in the open until the rains came. These austere attitudes carried into the organization of the bureaucracy. He reduced the complement of local officials, subjected them to intense scrutiny and cast doubt on their integrity. But it was the central government officials who suffered most from the emperor's aspersions. Several purges were carried out in which thousands of officials and their families suspected of corruption or treachery were rounded up and put to death. A famous poet, whose words were construed as criticism, was sliced in half. In numerous ways underperforming and unlucky officials were derided, humiliated, and on occasion publicly flogged. Only the Empress Ma, a woman of great strength and magnanimity, was capable of restraining the emperor's anger. After she died in 1382, he lived on alone and embittered.

A unique aspect of Emperor Taizu's rule was the establishment of his administrative capital in Nanjing, itself an ancient capital during early periods of disunity. He built the city into a formidable fortress surrounding the imperial quarters, with everything positioned to take advantage of the location's geomantic and strategic features. Nanjing gave access to the crucial eastern China region on which the regime depended for its fiscal resources. It also enabled the emperor to control wealthy localities that had supported other contenders. After Emperor Taizu died, the usurping Emperor Chengzu (Taizu's fourth and oldest surviving son) moved the main capital to his base in north China, henceforth named Beijing (Northern Capital; Nanjing, in contrast, means Southern Capital).



Nanjing remained an important administrative center and would again serve as a capital during the massive anti-Manchu Taiping Rebellion (1851–1864) and in the Nationalist era (1928–1949).

John R. Watt

See also China

# **Further Reading**

Carrington-Goodrich, L., & Fang, C. (Eds.). (1976). Dictionary of Ming biography. New York: Columbia University Press.

Farmer, E. L. (1995). Zhu Yuanzhang and early Ming legislation: The reordering of Chinese society following the era of Mongol rule. Leiden, Netherlands: E. J. Brill.

Mote, F. W. (1977). The transformation of Nanking, 1350–1400. In G. W. Skinner (Ed.), *The city in late imperial China* (pp. 101–153). Stanford, CA: Stanford University Press.

Mote, F. W. (1999). Imperial China, 900–1800. Cambridge, MA: Harvard University Press.

Watt, J. R. (1984). The agrarian policies of Chu Yuan-chang. *The American Asian Review*, 2(4), 70–122.

# Zimbabwe, Great

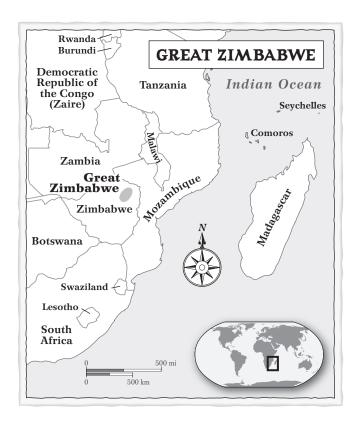
**T**isitors to the ruins of the former capital of Great Zimbabwe, a state that flourished in southern Africa from approximately 1290 to 1450, may be struck by two observations. First, the impressive stone structures emerging from the savanna still convey the former wealth and importance of the site. In the local language, Shona, zimbabwe means "houses built of stone," and there are many *zimbabwe* in the region, in particular in the area bounded by the Limpopo river in the south and the Zambezi River in the north. Great Zimbabwe thus represents a prominent example of political power and architecture; in fact it was the largest stone structure in Africa south of the Sahara built before European colonization in the late nineteenth century. While having only extended across a fraction of what today is the national territory, its legacy is so important that in 1980 the newly independent country was named Zimbabwe, and the image of an artifact, the stone-carved Zimbabwe bird, of which eight were found at the site, became part of the national flag.

Second, a visitor not too familiar with the history of Great Zimbabwe is likely to be surprised by the artifacts exhibited at the museum on site. These range from locally produced tools to luxury items from the Indian Ocean rim, such as glass beads from India and porcelain from China. Despite Great Zimbabwe's location several weeks' march by foot from the coast, the political centralization that led to its formation was based on its links with the Indian Ocean economy, exporting gold in exchange for cotton cloth and luxury items.

# **Origins**

Great Zimbabwe's cultural achievements, wealth, and economic success, expressed in its stone architecture, so gravely contradict prejudiced notions of the African past that since the 1870s, a range of European travelers, archaeologists, and historians, have attributed them to outsiders. In particular, the white settler regime during the colonial period (1890–1980) claimed that some allegedly superior civilization, such as the ancient Egyptians or the Phoenicians, must have been responsible. Ironically, however, already in the early twentieth century, archaeologists had proved that local Shona-speaking people had built the city.

As is the case elsewhere with agricultural societies, the origins of Great Zimbabwe as a centralized political state lie in its participation in long-distance trade networks, which generated sufficient wealth to sustain a political elite in a highly stratified society. Its rich gold deposits made the region so attractive to Swahili-speaking traders from the East African coast that in the thirteenth century caravan routes were established with Kilwa in East Africa, which became Great Zimbabwe's most important trade partner on the Indian Ocean rim. Great Zimbabwe was thus incorporated into the Indian Ocean economy, exchanging precious metals, especially gold and from the fourteenth century also copper, for cotton cloth and luxury items. The political elite controlled the long-distance commerce by taxing traders and through its networks of patron-client relationships with miners and



agriculturalists. These networks rested upon the redistribution of accumulated wealth, particularly in the form of cattle. The unusually high population density at the capital city and division of labor within the state depended on sustainable agriculture. A shared religion manifest in ancestral worship and reverence of a high god contributed to political unity, which was further cemented through the authority of a king, advised by a group of male elders.

# The City

Importantly, as the Zimbabwean historian Innocent Pikirayi points out, the capital of Great Zimbabwe was not merely a large village, but indeed a metropolis. Different population strata lived in close proximity, and the layout as well as architecture expressed power relations. In contrast to *zimbabwe* elsewhere, where the walls functioned as defense structures, here they served to mark the city's three distinct areas. There is a hill complex, an elevation of granite rocks with steep slopes. On top, surrounded by a wall, were the living quarters of the king and his court. Interestingly, there is no water source inside this structure. Thus, while access to this hilltop could easily be controlled by a few guards, it

could not have withstood a siege for any significant period of time. At the bottom of the hill complex is the so-called great enclosure, where members of the political elite and traders, or as some historians suggest, the royal women, used to live. Today, most of the surrounding high wall, more than five meters tall, is still in place, with a massive stone tower inside. The religious or political purpose of this tower is debated. Between the hill complex and the great enclosure and beyond extends a valley, where the agriculturalists lived in the open savannah. All houses were at the time round huts constructed of mud and wattle. It is safe to assume that the city thus represented the wealth and power of the state, unifying its inhabitants while at the same time reasserting social stratification.

# Decline

Two factors contributed to the decline of Great Zimbabwe in the fifteenth century. Most significantly, its elite lost control over the gold trade to competing states, especially to Munhumutapa further to the north, which rose to power in the mid-fifteenth century. Subsequently, the caravan routes were relocated and the region was cut off from the Indian Ocean trade. Secondly, the relatively high population density in an area with only one annual rainy season eventually caused much environmental stress. At Great Zimbabwe's peak up to 18,000 people lived in the city, extending over an area of approximately 720 hectares. Once the state could sustain its elite no longer, the city lost its purpose. Out-migration occurred, and political decentralization eventually led to the fragmentation of the state into small-scale local communities and the rise of states elsewhere in the region.

# **Implications**

As a city built of stone, with a small political elite deriving its power from controlling the state's incorporation into the Indian Ocean economy through the export of gold, Great Zimbabwe represents common patterns of state building in the region between the tenth and nineteenth centuries. Great Zimbabwe's decline was typical

	Key Events in the History of African States	
8th century BCE	Cush (in southern Egypt and northern Sudan) invades and conquers Egypt; Shabaka of Cush establishes Egypt's twenty-fifth dynasty.	
6TH CENTURY BCE	Meroë becomes the capital of Cush.	
1st millen- nium ce	Wagadu (Ghana) empire flourishes.	
1st-3rd CENTURY CE	Kingdom of Cush flourishes, engages in trade with Rome.	
MID-3RD CENTURY CE	Aksum replaces Cush as principal supplier of goods to Rome.	
Early 6th century ce	Aksum loses its Nile Valley and southern Arabian provinces.	
6TH CENTURY	Nubian kingdoms (Nobadia, Makuria, and Alodia) flourish.	
8th century	City of Aksum abandoned.	
9TH-14TH CENTURY	Centralization of political power in central Africa leads to the formation of the kingdom of Kongo.	
10TH-12TH CENTURY	Hausa states emerge.	
c. 1150—early 14th century	Saifawa dynasty rules in Kanem, in the Lake Chad basin.	
Early 13th century	Wagadu reduced to a tribute-paying vassal of Soso and Mali.	
13TH CENTURY	Nubian kingdom of Alodia begins to disintegrate.	
13TH-14TH CENTURY	Loose alliance among the seven Hausa states.	
Mid-13th- mid-15th century	Mali empire flourishes on the Upper Niger River.	
1290-1450	Great Zimbabwe flourishes in southern Africa.	
15th century	Empire of Songhai is expanding.	
15th century	The East African island of Kilwa is a leading trading center.	
1591	Songhai loses its independence to invaders from Morocco.	
17TH-18TH CENTURY	Bornu, in the Lake Chad basin, is one of the largest states in Africa.	
1808-1903	Sokoto caliphate flourishes in West Africa.	
1818-1879	Zulu kingdom flourishes.	

Tolerance and human rights require each other. • SIMON WIESENTHAL (B.1908)

for agricultural societies elsewhere, deriving from the ecological crisis caused by population concentration and its marginalization from long-distance trade. However, unique in the region is that the layout and the architecture of the city did not appear to have served defense purposes at all and instead were an expression and reinscription of power relations between population groups.

Heike I. Schmidt

# **Further Reading**

Beach, D. (1980). The Shona and Zimbabwe, 900–1850: An outline of Shona history. Gweru, Zimbabwe: Mambo Press.

Beach, D. (1994). The Shona and their neighbours. Oxford, UK: Blackwell.
Beach, D. (1998). Cognitive archaeology and imaginary history at Great Zimbabwe. Current Anthropology, 39(1), 47–72.

Carroll, S. T. (1988). Solomonic legend. The Muslims and the Great Zimbabwe. The International Journal of African Historical Studies, 21(2), 233–247.

Garlake, P. (1973). Great Zimbabwe. New York: Thames & Hudson.Garlake, P. (1982). Great Zimbabwe: Described and explained. Harare,Zimbabwe: Zimbabwe Publishing House.

Huffman, T. N. (1996). Snakes and crocodiles: Power and symbolism in ancient Zimbabwe. Johannesburg, South Africa: Witwatersrand University Press.

Mudenge, S. (1988). A political history of Munhumutapa c. 1400–1902. London: James Currey.

Pikirayi, I. (2001). The Zimbabwe culture: Origins and decline in southern Zambezian states. Walnut Creek, CA: Altamira Press.

Pwiti, G. (Ed.). (1997). Caves, monuments, and texts: Zimbabwean archaeology today (Studies in African Archaeology No. 14). Uppsala, Sweden: Department of Archaeology and Ancient History, Uppsala University.

# Zionism

Zionism is a movement to establish a homeland for Jews who have been scattered throughout Europe. The word *Zion* refers to the land promised to the Jews by God in the Bible, but the activity of Zionism is almost exclusively political, rather than religious, because of Jews' understanding that the land is not to be inhabited until the coming of their Messiah. The need for a Jewish homeland began in 70 CE with the destruction of the second Temple of Jerusalem by the Romans. Since that time

Jews have lived as a minority group in many countries. Despite the diversity of cultural settings and political regimes during the centuries, they have been able to maintain their ethnic, religious, and linguistic characteristics. Because of their strong nationalistic identity, they have been subjected to prejudice—known as "anti-Semitism"—and even persecution in many of the countries to which they have migrated. As a result, the primary aim of Zionists has been to find a homeland (preferably in the Jewish ancestral home of Palestine) where they can gain political independence, develop Hebrew as the spoken language, and provide a community for Jews who have been dispersed for centuries.

Writers during the nineteenth century spread Zionist ideas throughout Europe. Moses Hess wrote two works outlining the return of Jews to Palestine, *Rome and Jerusalem* (1862) and *Plan for the Colonization of the Holy Land* (1867). Leo Pinsker wrote in his pamphlet *Auto-Emancipation* (1882) that "The Jews are not a living nation; they are everywhere aliens; therefore they are despised... The proper and only remedy would be the creation of a Jewish nationality... a home of their own."

Theodor Herzl (1860–1904), an Austrian journalist, moved to the forefront of the movement with the organization of the first Zionist Congress at Basel, Switzerland, in 1897. Delegates at the congress called for a publicly recognized Jewish home in Palestine. During the remainder of his life Herzl negotiated with world leaders to gain support for the Zionist movement. In 1903 the British government offered a large tract of land in Uganda, East Africa, for a Jewish homeland. Herzl promoted this idea to the Zionist Congress in 1903 as a "temporary haven" for Jews. Delegates at the congress strongly opposed the idea and remained committed to Palestine as the only sanctuary for Jews scattered throughout the world. Herzl died in 1904, but his contributions to the movement earned him the title of the "Father of Modern Zionism."

Between 1881 and 1903 the first modern migration of Jews to Palestine established a small but influential presence. The first group of settlers was known as



"Chovevei Zion" (Lovers of Zion). Numbering just thirteen men and one woman, the group landed at Jaffa on 7 July 1882. Many others followed during the first aliyah (going up) to Israel. In 1904 the second aliyah brought a new wave of immigrants to Palestine, mostly Russian Jews, including such influential leaders of the nation of Israel as David Ben-Gurion and Izhak Ben-Zvi. By the beginning of World War I about ninety thousand Jews were living in Palestine.

# **Diplomacy**

Zionists pursued their political agenda for a Jewish state in Palestine through diplomatic means with Great Britain and the other Allied powers (Russia, France, England, Italy, the United States). The British tried to gain support in the Palestinian region from both Jews and Arabs. Because Palestine was under the political control of the Ottoman Turks, who joined Germany to oppose the Allied powers, the postwar division of Palestine by the victorious Allied forces was complicated by secret and ambiguous agreements made during the war among the British and Arabs and Jews.

Correspondence between Arab leader Sherif Hussein and the British high commissioner in Egypt, Sir Henry McMahon, expressed British support for an independent Arab state in Palestine. At the same time as these negotiations, the Sykes-Picot Agreement divided the region into mandate territories that would be under the influence or direct control of the British and French governments. The Sykes-Picot Agreement of 1916 contained provisions that contradicted the Hussein-McMahon correspondence.

Meanwhile, Chaim Weizman, a Russian-born chemist and president of the World Zionist Organization, made contacts with many British leaders to gain sympathy for the Zionist cause. David Lloyd George, prime minister of Great Britain, viewed Palestine as the biblical home of the Jews. Also, British Foreign Secretary Arthur Balfour was supportive of the Zionist viewpoint and hoped that a Jewish homeland in Palestine would enable the British to have an influential presence in the region. On 2 Novem-

ber 1917, the Balfour Declaration expressed Britain's public support for the establishment of a Jewish home in Palestine.

As a mandate territory under British control, Palestine was defined geographically for the first time in modern history. The League of Nations ratified the Palestine mandate territory in 1922. The preamble of the mandate included the Balfour Declaration, thus promoting the Zionist ideal of a Jewish state in Palestine to the status of international law.

Under British rule immigration by Jews to Palestine continued. Political and economic competition between Arabs and Jews escalated during the 1920s. Tension between the two groups climaxed in August 1929 during a Jewish religious fast when riots broke out in Jerusalem. More than sixty Jews and Arabs were killed. The British declared martial law in the region and sent an investigative commission to conduct hearings and issue a report. The report, known as the "Passfield White Paper," stated that the riots had been caused by Arab fears of Jewish domination. The white paper called for a suspension of Jewish immigration until a policy could be created. The protest from Zionists and Jewish immigrants was so strong that the white paper was repealed the next year.

The rise of the German Nazi leader Adolph Hitler in 1933 resulted in a new wave of anti-Semitism in Europe and a large migration of Jews to Palestine. By 1936, 30 percent of the population in Palestine was Jewish. Arabs reacted violently to the migration because they feared that they would become the minority group. Arabs pleaded with the British for their support.

In 1939 the British sought to resolve the Arab-Jewish problem by limiting the Jewish population in Palestine to one-third of the total population. Furthermore, the British declared that Palestine would become an independent state within ten years. Many Zionists saw this declaration as unacceptable because the state would be under Arab majority control, and the movement to establish a Jewish homeland would end. Many Palestinian Jews demanded an immediate uprising against the British. However, the most prominent Zionist group, led by David Ben-Gurion,

opposed an uprising. Instead, Jews undertook active resistance to the restrictions on Jewish immigration.

During World War II Zionists supported the Allies (France, England, China, Russia, and the United States) against Germany. Zionist leaders did not become aware of the Holocaust and the German plan to annihilate the Jewish people until 1942. The war in Europe and the Holocaust made it essential for Zionists to enlist support from the United States for a Jewish state in Palestine. Prior to World War II the United States had been neutral on the issue and saw the Palestine region as the responsibility of the British government. At the Biltmore Conference of the World Zionist Organization in 1942, Zionist leaders unanimously called for the immediate establishment of a Jewish commonwealth in Palestine and sought to pressure the United States into supporting their agenda. However, both British and U.S. governments opposed the Zionist plan because they wanted to maintain close ties with Arab neighbors who controlled vital oil deposits in the region.

# U.N. Resolution 181

At the end of World War II the British government sought an end to the mounting violence between Jews and Arabs in Palestine. Unable to mediate a settlement, the British unceremoniously turned the problem over to the United Nations in 1947. After much deliberation the United Nations on 29 November 1947 passed Resolution 181, which proposed partition of Palestine into separate Arab and Jewish states, with Jerusalem under permanent trusteeship. This resolution guaranteed a Jewish homeland. The Arabs immediately opposed the partition with violence. British troops hastily left the region in May 1948, refusing to enforce the U.N. resolution, and Zionists proclaimed the creation of the state of Israel. The first Arab-Israeli war erupted on 15 May 1948, with Arab armies from Egypt, Lebanon, Syria, and Iraq invading Israel. After a series of cease-fires and armistice agreements, Israel won its independence, and the Zionist dream was a reality.

Since the establishment of Israel as a state, Zionism has continued, offering a homeland to Jews who embrace

Israel as theirs. Formalized support also continues as Zionists create economic and political programs that support their cause and as they continue to remind Israel that their definition as a state also delineates their culture and history as Jews. The most activist sects of the Zionist movement have viewed the military successes of Israel in the 1948 War of Independence and the Six-Day War of 1967 as divine miracles and a foreshadowing of the coming of the biblical Messiah. Thus, some Zionists view the retaining of the biblical land of Israel as a "holy war" against Palestinian nationalist ideologies and Islamic religious movements. Furthermore, they believe that the existence of Palestinian settlements in the West Bank and Gaza Strip has prevented Jews from being able to claim complete or at least peaceful success in their goal of a homeland. More moderate Zionists have maintained a purely political agenda to continue to secure a homeland for Jews and maintain a cultural identity, trying to live in peace with their neighbors. However, some countries outside of the Middle East strongly believe that Zionism has refined itself from what had begun as a political agenda to an agenda driven by religious ideology.

To gain influence with the Arab community, Russia influenced the United Nations to draft Resolution 3379 on 10 November 1975, condemning Zionism as a form of racism and racial discrimination. The United States and its Western allies, who saw the resolution as a condemnation of the nation of Israel, bitterly contested the resolution. In 1991 the resolution was repealed amid efforts to allow the United Nations to play a role in the ongoing Middle East peace talks.

Zionism continues to play a major role in the Middle East peace talks as recent terrorist attacks have led to a call for more national unity in Israel in the spirit of the early days of the movement. Zionist rhetoric is used by both Jews and Arabs to describe the tense political situation in the region. The key to the future of Zionism is the connection between its religious identity and its desire for a homeland.

Mark McCallon

See also Judaism



# **Further Reading**

Bickerton, I. J., & Klausner, C. L. (1998). A concise history of the Arab-Israeli conflict (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Halpern, B., & Reinharz, J. (1998). Zionism and the creation of a new society. New York: Oxford University Press.

Hertzberg, A. (Ed.). (1959). The Zionist idea: A historical analysis and reader. Garden City, NY: Doubleday & Herzl Press.

Levin, N. G., Jr. (Ed.). (1974). The Zionist movement in Palestine and world politics, 1880–1918. Lexington, MA: D. C. Heath.

# Zoroastrianism

oroastrianism is the ancient religion of the Iranian people. The prophet of this religion is Zarathushtra (Greek form Zoroaster), who lived approximately 1000 BCE in eastern Persia. The religion of the Iranians was closely related to that of the Indians who had immigrated to the Indus region. The Indo-Iranian religion was polytheistic and included two groups of deities, the Ahuras and the Daivas. Zoroaster reformed the old Indo-Iranian religion and made one group of these deities the beneficent ones (Ahuras), and another maleficent (Daivas). Among the Ahuras, one named Ahura Mazda (Wise Lord) was made supreme and the creator of the world and all that is good. Ahura Mazda was aided by a group of deities who act as his aspects or his archangels. While they were not a fixed number during the time of the prophet, they include Khshathra (Dominion); Haurvatat (Health); Spenta Armaiti (Devotion); Ameretat (Immortality); Vohu Manah (Good Thought); Asha (Truth/Order); and Spenta Mainyu (Holy Spirit).

The creation of Ahura Mazda who is mentioned reverently by Zoroaster is opposed by a host of fallen deities, the Daivas, who remained supreme in the Indic religion. For of each of Ahura Mazda archangels a deadly and maleficent demon was created to bring death and destruction to the world. These Daivas are headed by Angra Mainyu (Ahriman), which can be translated as Evil Spirit. It is the Daivas who attempt to destabilize the universal order (arta) and are in constant battle with the Ahuras. According to Zoroaster's own words, people

have the freedom of will to choose with a clear mind between the two sides, but if one chooses to be on the side of the Daivas and Angra Mainyu, he or she will suffer at the time of renovation (end of time) and will be placed in the Zoroastrian hell, which is dark and full of stench. However, if one chooses on the side of Ahura Mazda, he or she will be prosperous and at the end of time will remain in the house of songs and best existence, that is, heaven. This is the first time in history that we find these concepts enumerated, which will influence Abrahamic religions as the Achaemenid Persian empire ruled over Asia and the eastern Mediterranean.

The prophecies of Zoroaster are contained in seventeen hymns known as the Gathas of Zoroaster, which are part of a greater collection of hymns written down in the Sassanian period in the sixth century CE, known as the Avesta. The Avesta is multilayered and parts of it can be dated to different periods of Persian history. When Zoroaster passed away, his community composed a series of seven hymns known as Yasna Haptanhaiti, which is a further blessing of the Ahuras and solidification of Zoroastrian beliefs. By the time of the Achaemenid Persian empire, the old Ahuras and some of the Indo-Iranian deities who were not the focus of Zoroaster's devotion made their appearance in the Zoroastrian religion. A number of deities such as Anahita, Mithra, Verethragna, Sraosha, and Tishtarya are worshiped and mentioned in the part of the Avesta known as the Yashts. These Yashts are hymns to various deities who are invoked for specific purposes and have various functions and associations. For example, Anahita is associated with water and fertility; Mithra with oaths and later the sun; Verethragna with offensive victory. The section of the Avesta that mainly deals with law of purity and pollution as well as early myths of the Iranian people is known as Widewdad (antidemonic law).

The priests who memorized these sacred words and were responsible for the compilation of all the hymns are known as the Magi. They appear to have been a Median tribe (according to Herodotus) who were specialists in religion and served from the time of the

# When and Where World Religions Began

/000 2F00	Hinduism	South Asia
4000-2500 все		South Asia
1300-1200 все	Judaism	West Asia
500-400 все	Buddhism	South Asia
	Confucianism	China
	Zoroastrianism	West Asia
	Jainism	South Asia
400-221 все	Daoism	China
1st century ce	Christianity	West Asia,
		Europe
3rd century ce	Manichaeism	West Asia
6th century ce	Shinto	Japan
7th century ce	Islam	West Asia
11TH CENTURY	Orthodoxy	West Asia
15тн-16тн	Sikhism	South Asia
CENTURY		
16th century	Protestantism	Europe
19th century	Latter-day Saints	North
		America
	Babi and Baha'i	West Asia
19тн-20тн	Pentecostalism	North
CENTURY		America

Achaemenid period onward. One of the ceremonies of the Magi was the Haoma ceremony, in which the Magus mixed plant juice with milk and drank it in order to gain power and have visions. Fire is the other sacred element, which the Magi respected and before which they sang hymns. Hence, the place where the sacred fire burned and the place where the Magi worshiped was known as the fire-temple.

By the Sassanian Persian empire in the third century CE, the hymns that were memorized were collected and those that were deemed unfit were forsaken. The Sassanian state became allied with the Zoroastrian Magi and a Zoroastrian empire was born. The *Avesta* was codified and written down in a specific script. With the Arab Muslim conquest of Persia in the seventh century CE, the number of Zoroastrians began to dwindle. The Zoroastrians became a minority in the Muslim empire and while some remained in Persia, many left for India. Today about 200,000 Zoroastrians remain in the world, mainly in Iran, India, and North America. Because of the low birth rate and the fact that Zoroastrianism is not a proselytizing religion, the number of followers of this religion is dwindling.

Touraj Daryaee

# **Further Reading**

Boyce, M. (1984). *Textual sources for the study of Zoroastrianism*. Chicago: University of Chicago Press.

Kellens, J. (2000). Essays on Zarathustra and Zoroastrianism (P. O. Skjaervo, Trans. & Ed.). Costa Mesa, CA: Mazda Publishers.

Malandra, W. W. (1983). An introduction to ancient Iranian religion: Readings from the Avesta and the Achaemenid Inscriptions. Minneapolis: University of Minnesota Press.

# This Fleeting World

# An Overview of Human History

# **David Christian**

Professor of History San Diego State University 2004

Thus shall ye think of all this fleeting world: A star at dawn, a bubble in a stream, A flash of lightning in a summer cloud, A flickering lamp, a phantom, and a dream.

• The Diamond Sutra

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# Introduction

X Torld history focuses on the interconnections between people and communities in all eras of human history. Instead of telling the history of this nation or that community, it explores the histories of women and men across the entire world, the stories that all humans share just because they are human. Creating the history of humanity is one of the larger and more important goals of world history. Encyclopedias, however, encourage more sharply focused enquiries into the past. By convention, they divide their subject matter into manageable chunks, and then rearrange those chunks in alphabetical order, which is wonderful if you are researching particular topics, or just grazing. But such an organization can also obscure the larger picture. The overview of human history that follows in this section is designed to help readers keep sight of the unity of human history even as they enjoy the rich diversity of details, questions and approaches in the body of the encyclopedia.

Of course, no survey this brief can do more than sketch some of the main lines of development of our remarkable species, and it is probable that different historians would have drawn the lines in different ways. Nevertheless, as world history has evolved during the last fifty years or so, some consensus has emerged on the crucial turning points in human history. The three essays that follow are intended to distil something of that consensus, leaving more detailed treatments to the articles in the body of the encyclopedia. Besides, brevity has its advantages. Above all, it should be possible to read this survey in one or two sittings, a short enough period to remember the beginning of the story as you reach the end. Cross-references and bibliographical references will lead you quickly to other essays if you want to find out more about any particular subject.

My fellow editors (William McNeill, Jerry Bentley, Karen Christensen, David Levinson, John McNeill, Heidi Roupp, and Judith Zinsser) have been extremely generous in commenting on earlier drafts of these essays, and I want to thank them formally for their suggestions. However, I was stubborn enough not to accept all of their advice, so I alone must accept responsibility for remaining errors of fact, emphasis and balance.

David Christian

# Comparing the Three Eras of Human History

Era 1:	250,000-8000 все	Most of human history; small communities; global migrations; megafaunal
<b>FORAGING</b>		extinctions; slow population growth
Era 2:	8000 все $-1750$ се	Intensification; rapid population growth; cities, states, empires; writing; different
AGRARIAN		histories in different world zones
Era 3:	1750-Present	Single, global system; rapid growth in energy use; increasing rate of extinctions;
MODERN		increased life expectancies

# Beginnings: The Era of Foragers



The era of foragers was the time in human history when all human communities lived by searching out or hunting food and other things they needed, rather than by growing or manufacturing them. Such people are also called "hunter-gatherers." The era of foragers is also known as the "Paleolithic era" (*Paleolithic* means "old Stone Age"). The era of foragers was the first and by far the longest era of human history. It was the time when the foundations of human history were laid down.

Foragers gather the resources they need for food, for shelter and clothing, and for ritual activities and other purposes. For the most part they do so without trying to transform their environment. The exceptional cultural and technological creativity of human foragers distinguishes their lifeways (the many different ways in which people relate to their environments and to each other) from the superficially similar lifeways of nonhuman species, such as the great apes. Only humans can communicate using symbolic language. Language allows men and women to share and accumulate knowledge in detail and with great precision. As a result of this constant sharing of knowledge, the skills and lifeways of ancient foragers gradually adapted to a huge variety of environments, creating a cultural and technological variety that has no parallel among any other large species. The extraordinary facility with which human communities adapted to new circumstances and environments is the key to human history.

As far as we know, the earliest human beings were foragers; thus, the era of foragers began about 250,000 years ago, when modern humans—members of our own species, *Homo sapiens*—first appeared on Earth. Although some foraging communities exist even today, the era of

foragers ended about ten thousand years ago with the appearance of the first agricultural communities because after that time foraging ceased to be the only lifeway practiced by human societies.

# Studying the Era of Foragers

Historians have had a difficult time integrating the era of foragers into their accounts of the past because most historians lack the research skills needed to study an era that generated no written evidence. Traditionally the era of foragers has been studied not by historians, but rather by archaeologists, anthropologists, and *pre*historians.

In the absence of written evidence scholars use three other fundamentally different types of evidence to understand the history of this era. The first type consists of physical remains from past societies. Archaeologists study the skeletal remains of humans and their prey species, left-over objects such as stone tools and other manufactured objects or the remains of meals, as well as evidence from the natural environment that may help them understand climatic and environmental changes. We have few skeletal remains for the earliest phases of human history; the earliest known skeletal remains that are definitely of modern humans date from around 160,000 years ago.

For more on these topics, please see the following articles:

Archaeology p. 107 (v1)

Art, Paleolithic p. 180 (v1)

Dating Methods p. 487 (v2)

Human Evolution—Overview p. 930 (v3)

Paleoanthropology p. 1412 (v4)

	Key Events in the Foraging Era	
300,000-	Modern human beings appear in Africa.	
200,000 BCE		
250,000 все	Stone tool technology becomes more sophisticated.	
200,000 BCE	Humans have spread across Africa.	
100,000 BCE	Humans begin migrating out of Africa to Eurasia.	
50,000 все	Development of more sophisticated technologies begins to accelerate.	
	Large-scale extinction of many large land animals begins.	
50,000-	Australia is settled.	
40,000 BCE		
30,000 BCE	Siberia is settled.	
30,000-	More sophisticated tools such as the bow and arrow are invented.	
20,000 все		
13,000 все	North America is settled.	
12,000 BCE	South America is settled.	
10,000 BCE	The foraging era ends with the development of agriculture.	

However, archaeologists can extract a surprising amount of information from fragmentary skeletal remains. A close study of teeth, for example, can tell us much about diets, and diets can tell us much about the lifeways of early humans. Similarly, differences in size between the skeletons of males and females can tell us something about gender relations. By studying fossilized pollens and core samples taken from sea beds and ice sheets that have built up during thousands of years, archaeologists have managed to reconstruct climatic and environmental

changes with increasing precision. In addition, the dating techniques developed during the last fifty years have given us increasingly precise dates, which allow us to construct absolute chronologies of events during the entire span of human history.

Although archaeological evidence tells us mostly about

For more on these topics, please see the following articles: Foraging Societies, Contemporary p. 764 (v2) Genetics p. 809 (v2)

# 250,000 Years of Human History

(NOT DRAWN TO SCALE)



the material life of our ancestors, it can occasionally give us tantalizing glimpses into their cultural and even spiritual lives. Particularly revealing are the astonishing artistic creations of early human communities, although precise interpretations of artifacts such as the great cave paintings of southern France and northern Spain remain beyond our grasp.

The second major type of evidence used to study early human history comes from studies of modern foraging communities. Such studies must be used with caution because modern foragers are modern; their lifeways are all influenced in varying degrees by the modern world. Nevertheless, by studying modern foraging lifeways, we can learn much about basic patterns of life in small foraging communities; thus, such studies have helped prehistorians interpret the meager material evidence available.

Recently a third type of evidence, based on comparative studies of modern genetic differences, has provided new ways of studying early human history. Genetic studies can determine degrees of genetic separation between modern populations and can help us estimate both the age of our species and the dates at which different populations were separated by ancient migrations.

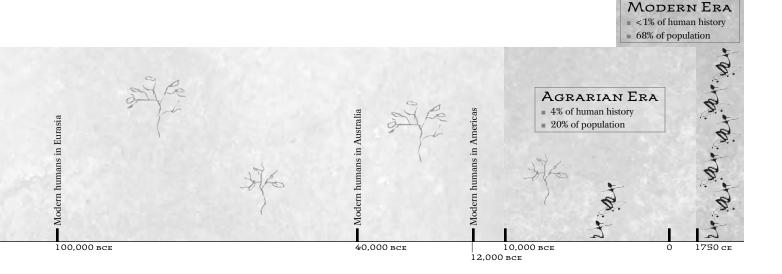
Integrating these different types of evidence into a coherent account of world history is difficult not only because most historians lack the necessary expertise and training, but also because archaeological, anthropologi-

# Carbon Dating

Carbon 14 (hereafter C 14) was developed by the American chemist Willard F. Libby at the University of Chicago in the '50s, for which he received the Nobel Prize in Chemistry in 1960. C 14 dating provided an accurate means of dating a wide variety of organic material in most archaeological sites, and indeed in most environments throughout the world. The method revolutionized scientists' ability to date the past. It freed archaeologists from trying to use artifacts as their only means of determining chronologies, and it allowed them for the first time to apply the same absolute time scale uniformly from region to region and continent to continent. Many older archaeological schemes were overturned with the advent of C 14 dating. Today it is possible to date sites . . . well back into the late Pleistocene [Era] with reliable and accurate chronologies.

Source: Hudson, M. (n.d.).  $Understanding\ Carbon\ 14\ dating.$  Retrieved September 8, 2004, from http://www.flmnh.ufl.edu/natsci/vertpaleo/aucilla10\_1/Carbon.htm

cal, and genetic evidence yields types of information that differ from the written sources that are the primary research base for most professional historians. Archaeological evidence from the era of foragers can never give us the intimate personal details that can be found in written sources, but it can tell us much about how people lived. Integrating the insights of these different disciplines is one



# Who Does What in the Study of Human History

Archaeologists excavate, preserve, study, and classify artifacts of the near and distant past in order to develop a picture of how people lived in earlier cultures and societies. The profession combines a broad understanding of history with sophisticated digging procedures and plain old hard work, making it one of the most demanding and competitive branches of the social sciences.

Source: Princeton Review. (2004). Retrieved September 8, 2004, from http://www.princetonreview.com/cte/profiles/dayInLife.asp?careerID=10

**Prehistorian:** An archaeologist who specializes in prehistory—the study of prehistoric human-kind.

Source: Merriam-Webster Online. (2004). Retrieved September 8, 2004, from  $\label{eq:http://www.m-w.com} http://www.m-w.com$ 

The word *anthropology* itself tells the basic story—from the Greek *anthropos* ("human") and *logia* ("study")—it is the study of humankind from its beginnings millions of years ago to the present day....Though easy to define, anthropology is difficult to describe. Its subject matter is both exotic (e.g., star lore of the Australian aborigines) and commonplace (anatomy of the foot). And its focus is both sweeping (the evolution of language) and microscopic (the usewear of obsidian tools). Anthropologists may study ancient Mayan hieroglyphics, the music of African Pygmies, and the corporate culture of a U.S. car manufacturer.

Source: American Anthropological Association. (2004). Retrieved September 8, 2004, from http://www.aaanet.org/anthbroc.htm

of the main challenges of world history, and it is faced most directly in studying the era of foragers.

# Beginnings of Human History

Scholars still debate when our species first appeared. One hypothesis—the multiregional model, defended today by a minority of physical anthropologists, including Milford Wolpoff and Alan Thorne—states that modern humans evolved gradually, during the last million years, in many

regions of the Afro-Eurasian landmass. Through time, protohumans (early human ancestors) in different regions diverged enough to create the genetic foundations for modern regional variants (races) while maintaining sufficient genetic contact to remain a single species. The multiregional model implies that human history began, quite gradually, sometime during the last million years. The evidence for this model comes mainly from the comparative study of skeletal remains.

### Out of Africa, into Controversy

A second hypothesis, sometimes known as the "Out-of-Africa hypothesis," relies mainly on genetic comparisons of modern humans, although it also claims to be consistent with surviving skeletal evidence. It starts from the observation that modern humans are genetically very similar to each other, so similar in fact that they cannot have been evolving for more than about 250,000 years. This hypothesis suggests that all modern humans are descended from just a few ancestors who lived about 250,000 years ago. Today the greatest genetic variety among humans can be found in Africa, which suggests that Africa is where humans evolved and where they lived for the longest time before some began to migrate around the world. If the Out-of-Africa hypothesis is correct, modern humans evolved in Africa from later forms of Homo ergaster. The new species probably emerged quite rapidly in a remote, isolated group.

The Out-of-Africa hypothesis itself comes in two main variants. The first variant, which has long been defended by the archaeologist Richard Klein and others, suggests that even if modern humans evolved in Africa perhaps 250,000 years ago, the earliest evidence of distinctively human behaviors, including improved hunting skills and artistic activities of various kinds, dates from no earlier than about fifty thousand to sixty thousand years ago. In this variant humans were not fully human, and human

 $For \ more \ on \ these \ topics, \ please \ see \ the \ following \ articles:$ 

Afro-Eurasia p. 44 (v1)

Human Evolution—Overview p. 930 (v3)

Periodization—Overview p. 1453 (v4)

The further you get away from any period, the better you can write about it. You aren't subject to interruptions by people that were there. • Finley Peter Dunne (1867–1936)

history did not really begin until some minor genetic changes made available the full range of modern symbolic languages. This variant of the Out-of-Africa hypothesis depends on the proliferation of new types of tools and artifacts that is evident in the archaeology of Eurasia from about fifty thousand years ago.

More recently, however, some supporters of the Out-of-Africa hypothesis have argued that the significance of these changes may have been exaggerated by virtue of the fact that scholars have conducted so much more archaeological research in Eurasia than in Africa, the presumed homeland of modern humans. In a careful analysis of the available archaeological evidence from Africa, the anthropologists Sally McBrearty and Alison Brooks have argued that evidence of distinctively human activities appears in Africa as early as 200,000 to 300,000 years ago and coincides with the appearance of skeletal remains that may be those of the earliest modern men and women. If McBrearty and Brooks are right, our species appeared in Africa between 200,000 and 300,000 years ago, and these dates mark the real beginnings of human history. The periodization adopted in this essay is based on these findings. It adopts the compromise date of 250,000 years ago for the appearance of the first humans and for the beginnings of human history. However, we should remember that this date remains subject to revision.

# WHAT MAKES US DIFFERENT?

What distinguishes us so markedly from other species? What distinguishes human history from the histories of all other animals? Many answers have been given to these fundamental questions. Modern answers include the ability to walk on two legs (bipedalism), the use of tools, the ability to hunt systematically, and the development of exceptionally large brains. Unfortunately, as studies of closely related species have become more sophisticated,

For more on these topics, please see the following articles:

Creation Myths p. 449 (v2)

Engines of History p. 654 (v2)

Language, Classification of p. 1106 (v3)

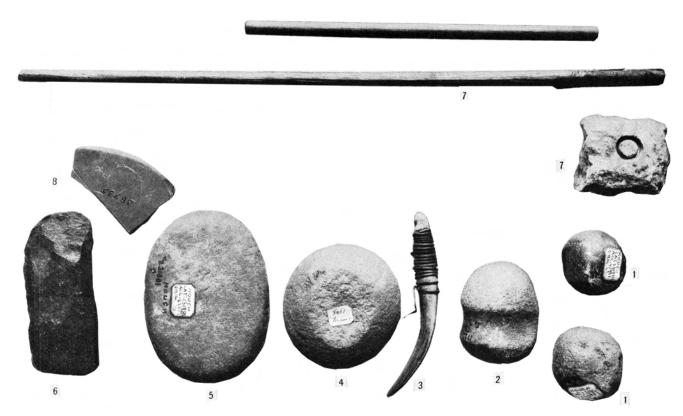
Language, Standardization of p. 1111 (v3)

we have learned that many of these qualities can be found to some degree in closely related species such as chimpanzees. For example, we now know that chimpanzees can make and use tools and can also hunt.

At the moment the most powerful marker, the feature that distinguishes our species most decisively from closely related species, appears to be symbolic language. Many animals can communicate with each other and share information in rudimentary ways. However, humans are the only creatures who can communicate using symbolic language: a system of arbitrary symbols that can be linked by formal grammars to create a nearly limitless variety of precise utterances. Symbolic language greatly enhanced the precision of human communication and the range of ideas that humans can exchange. Symbolic language allowed people for the first time to talk about entities that were not immediately present (including experiences and events in the past and future) as well as entities whose existence was not certain (such as souls, demons, and dreams).

The result of this sudden increase in the precision, efficiency, and range of human communication systems was that people could share what they learned with others; thus, knowledge began to accumulate more rapidly than it was lost: Instead of dying with each person or generation, the insights of individuals could be preserved for future generations. As a result, each generation inherited the accumulated knowledge of previous generations, and, as this store of knowledge grew, later generations could use it to adapt to their environment in new ways. Unlike all other living species on Earth, whose behaviors change in significant ways only when the genetic makeup of the entire species changes, humans can change their behaviors significantly without waiting for their genes to change. This cumulative process of collective learning explains the exceptional ability of humans to adapt to changing environments and changing circumstances and the unique dynamism of human history. In human history culture has outstripped natural selection as the primary motor of change.

These conclusions suggest that we should seek the beginnings of human history not only in the anatomical



This plate shows a variety of tools of increasing technological complexity used by humans at different times and places to shape stone. Tools 1–5 are used to flake or abrade stone. Tools 6 and 7 (long horizontal instruments and accompanying square to the right) are different parts of drills used with sand and tool 8 is a slate saw.

details of early human remains, but also in any evidence that hints at the presence of symbolic language and the accumulation of technical skills. The findings of McBrearty and Brooks link the earliest evidence of symbolic activity (including hints of the grinding of pigments for use in body painting) and of significant changes in stone tool technologies (including the disappearance of the stone technologies associated with most forms of *Homo ergaster*) with the appearance of a new species known as "*Homo helmei*." The remains of this species are so close to those of modern women and men that we may eventually have to classify them with our own species, *Homo sapiens*. The earliest anatomical, technological, and cultural evidence for these changes appears in Africa between 200,000 and 300,000 years ago.

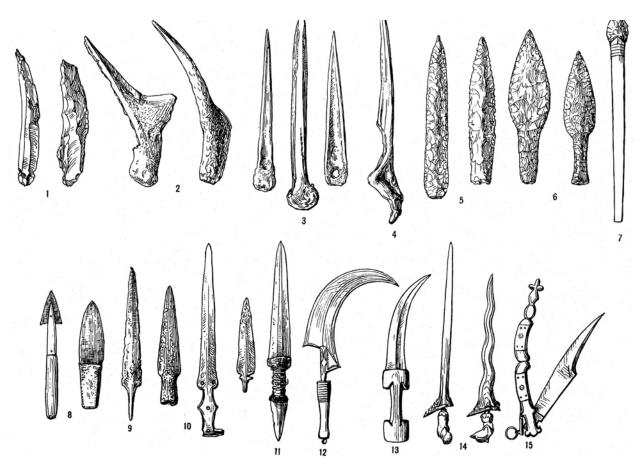
# Foraging Lifeways

Archaeological evidence is so scarce for the era of foragers that our understanding of early human lifeways has been shaped largely by conclusions based on the study of modern foraging communities. Indeed, the notion of a foraging mode of production was first proposed by the anthropologist Richard Lee during the late 1970s on the basis of his studies of foraging communities in southern Africa. However, the scanty archaeological evidence can be used to discipline the generalizations suggested by modern anthropological research.

The scarcity of remains from this era, combined with what we know of the ecology of modern foragers, makes us certain that levels of productivity were extraordinarily low by modern standards. Humans probably did not extract from their environment much more than the 3,000 kilocalories per day that adult members of our species need to maintain a basic, healthy existence. Low

For more on these topics, please see the following articles: Foraging Societies, Contemporary p. 764 (v2) Indigenous Peoples p. 963 (v3)
Kinship p. 1083 (v3)

Marriage and Family p. 1195 (v3)



This plate shows the variety of stabbing tools used over the course of human history and the different sizes, shapes, and materials used to make the weapons. Tools 1–2 are made from flaked stone, 2 from antler, 3 from animal bone, 4 from antler, 5 through 8 from chipped stone, and 9 through 15 from copper, bronze, and iron.

productivity ensured that population densities were low by the standards of later eras, averaging perhaps as little as one person per square kilometer. This fact meant that small numbers of humans were scattered over large ranges. Modern studies suggest that foragers may have deliberately limited population growth to avoid overexploitation of the land; modern foragers can limit population growth by inhibiting conception through prolonged breast feeding, by using various techniques of abortion, and sometimes by killing excess children or allowing the sick and unhealthy to die.

Because each group needed a large area to support itself, ancient foragers, like modern foragers, probably lived most of the time in small groups consisting of no more than a few closely related people. Most of these groups must have been nomadic in order to exploit their large home territories. However, we can also be sure that

many links existed between neighboring groups. Almost all human communities encourage marriage away from one's immediate family. Thus, foraging communities likely met periodically with their neighbors to swap gifts, stories, and rituals, to dance together, and to resolve disputes. At such meetings—similar, perhaps, to the corroborees of aboriginal Australians—females and males may have moved from group to group either spontaneously or through more formal arrangements of marriage or adoption.

# KITH AND KIN

Exchanges of people meant that each group normally had family members in neighboring groups, creating ties that ensured that people usually had some sense of solidarity between neighboring groups as well as some linguistic overlapping. Ties of kinship created local networks

What we know of the past is mostly not worth knowing. What is worth knowing is mostly uncertain. Events in the past may roughly be divided into those which probably never happened and those which do not matter. • William Ralph Inge (1860–1954)

that smoothed the exchange of goods, people, and ideas between neighboring groups.

Studies of modern foraging societies suggest that notions of family and kinship provided the primary way of thinking about and organizing social relations. Indeed, in *Europe and the People without History* (1982), the anthropologist Eric Wolf proposed describing all small-scale societies as "kin-ordered." Family *was* society in a way that is difficult for the inhabitants of modern societies to appreciate. Notions of kinship provided all the rules of behavior and etiquette that were needed to live in a world in which most communities included just a few persons and in which few people met more than a few hundred other people in their lifetime.

The idea of society as family also suggests much about the economics of foraging societies. Relations of exchange were probably analogous to those in modern families. Exchanges were conceived of as gifts. This fact meant that the act of exchanging was usually more important than the qualities of the goods exchanged; exchanging was a way of cementing existing relationships. Anthropologists say that such relationships are based on "reciprocity." Power relations, too, were the power relations of families or extended families; justice and discipline—even violent retribution for antisocial behavior—could be imposed only by the family. Hierarchies, insofar as they existed, were based on gender, age, experience, and respect within the family.

Studies of modern foraging societies suggest that, although males and females, just like older and younger members of society, may have specialized in different tasks, differences in the roles people played did not necessarily create hierarchical relations. Women probably took most responsibility for child rearing and may also have been responsible for gathering most of the food (at least in temperate and tropical regions, where gathering was more important than hunting), whereas men specialized in hunting, which was generally a less reliable source of food in such regions. However, no evidence indicates that these different roles led to relationships of dominance or subordination. Throughout the era of foragers

For more on these topics, please see the following articles: Animism  $\ p.\ 90\ (v1)$  Shamanism  $\ p.\ 1696\ (v4)$ 

human relationships were personal rather than hierarchical. In a world of intimate, personal relationships people had little need for the highly institutionalized structures of the modern world, most of which are designed to regulate relationships between strangers.

Burials and art objects of many kinds have left us tantalizing hints about the spiritual world of our foraging ancestors but few definitive answers. Modern analogies suggest that foragers thought of the spiritual world and the natural world as parts of a large extended family, full of beings with whom one could establish relations of kinship, mutual obligation, and sometimes enmity. As a result, the classificatory boundaries that foragers drew between human beings and all other species and entities were less hard and fast than those we draw today. Such thinking may help make sense of ideas that often seem bizarre to moderns, such as totemism—the idea that animals, plants, and even natural geological objects such as mountains and lakes can be thought of as kin. The belief that all or most of reality is animated by spirit may be the fundamental cosmological hypothesis (or model of the universe) of foraging societies, even if particular representations of spirits differ greatly from community to community. The hypothesis helped make sense of a world in which animals and objects often behave with all the unpredictability and willfulness of human beings.

### LIVING STANDARDS

In an article published in 1972 the anthropologist Marshall Sahlins questioned the conventional assumption that material living standards were necessarily low in foraging societies. He argued, mainly on the basis of

For more on these topics, please see the following articles:
Disease and Nutrition p. 538 (v2)
Diseases—Overview p. 543 (v2)
Food p. 757 (v2)



Shamanism is a form of religion traced back to the foraging era. This drawing depicts a Siberian Shaman.

health of foragers was often better than that of people in the earliest farming communities. The small communities in which foragers lived insulated them from epidemic diseases, and frequent movement prevented the accumulation of rubbish that could attract disease-carrying pests. Modern analogies suggest that they also lived a life of considerable leisure, rarely spending more than a few hours a day in pursuit of the basic necessities of life—far less than most people either in farming communities or in modern societies. However, we should not exaggerate. In other ways life was undeniably harsh during the era of foragers. For example, life expectancies were probably low (perhaps less than thirty years): Although many persons un-

doubtedly lived into their sixties or seventies, high rates of infant mortality, physical accidents, and interpersonal violence took a greater toll from the young in foraging societies than in most modern societies.

evidence from modern foragers, that from some points of view we could view foragers (certainly those living in less harsh environments) as affluent. Nomadism discouraged the accumulation of material goods because people had to carry everything they owned; so did a lifeway in which people took most of what they needed from their immediate surroundings. In such a world people had no need to accumulate material possessions. Absence of possessions may seem a mark of poverty to modern minds, but Sahlins argued that foragers probably experienced their lives as affluent because the things they needed could be found all around them. Particularly in temperate regions, the diets of foragers can be varied and nutritious; indeed, the variety of the diets of ancient foragers shielded them from famine because when their favorite foodstuffs failed, they had many alternatives to fall back on.

# Leisurely but Brief

Studies by paleobiologists (paleontologists who study the biology of fossil organisms) have confirmed that the

# Major Changes during the Era of Foragers

The small size of foraging communities and the limited possibilities for exchanging ideas over large areas may explain why, to modern minds, technological change during this era appears to have been so slow. Nevertheless, change was extremely rapid in comparison with the changes that took place among our hominid (erect bipedal primate mammals comprising recent humans and extinct ancestral and related forms) ancestors or among other large animal species. To give just one example, the Acheulian hand axes (a type of stone tool originating in Africa almost 2 million years ago) used by our immediate ancestors, *Homo ergaster*, changed little during a million and more years. Yet, during the 200,000 years or

The smallest human societies that we can identify either among living groups or among the populations of prehistory do not live up to the romantic images we sometimes paint of them... [but they] do surprisingly well if we compare them to the the actual record of human history rather than to

more of the era of foragers, our ancestors created a remarkable variety of new technologies and new lifeways. Indeed, the relatively sudden replacement of Acheulian stone technologies by more varied and precisely engineered stone tools in Africa from about 200,000 years ago is one of the most powerful reasons for thinking that modern humans existed by that date. Many of these new stone tools were so small that they may have been hafted (bound to handles), which would have greatly increased their versatility and usefulness.

The technological creativity of our foraging ancestors enabled them to explore and settle lands quite different from those in which they had evolved. Indeed, this creativity is one of the most decisive differences between our species and other species, including our closest relatives, the great apes. As far as we know, the great apes have not managed to modify their behaviors enough to migrate into new habitats. This fact is precisely why we do not customarily think of these species as having histories in the way that humans have a history. In contrast, the history of our species during the era of foragers is a story of many unrecorded migrations into new environments, made possible by tiny technological changes, the accumulation of new knowledge and skills, and minor adjustments in lifeways.

As humans spread over more and more of the Earth, human numbers surely increased. Estimates of populations during the era of foragers are based largely on guesswork, but one of the more influential recent estimates by demographer Massimo Livi-Bacci suggests that thirty thousand years ago just a few hundred thousand humans existed, whereas ten thousand years ago there may have been as many as 6 million. If we assume that approximately 500,000 humans existed thirty thousand years ago, this implies a growth rate between thirty thousand and ten thousand years ago of less than 0.01 percent per annum, which implies that human populations

For more on these topics, please see the following articles:

Afro-Eurasia p. 44 (v1)

Migrations p. 1247 (v3)

Population p. 1484 (v4)

were doubling approximately every eight thousand to nine thousand years. This rate of growth can be compared with an average doubling time of about fourteen hundred years during the agrarian era and eighty-five years during the modern era.

### Technological Change

Rates of growth during the era of foragers are striking in two contradictory ways. Insofar as population growth is an indirect sign of technological innovation, it provides evidence for innovation throughout the era and some signs that innovation was accelerating. However, by comparison with later eras of human history, rates of growth were extremely slow. This difference is partly because exchanges of information were limited by the small size and the wide dispersion of foraging communities. Indeed, change occurred so slowly that a person could hardly notice it within a single lifetime, and this fact may mean that ancient foragers, like modern foragers, had little sense of long-term change, seeing the past mainly as a series of variations on the present.

Migrations into new environments requiring new technologies and new skills probably began quite early during the era of foragers, while all humans still lived within the African continent. Unfortunately, studying technological change during the earliest stages of human history is difficult because surviving objects tell us little about the technological knowledge of those who made them. Today we depend upon objects such as cars and computers, which embody a colossal amount of specialized knowledge. However, modern anthropological studies suggest that among foragers knowledge was primarily carried in the head rather than embodied in objects. Thus, the tools that foragers left behind can give us only the palest impression of their technological and ecological skills.

Nevertheless, the evidence of change is powerful. The first piece of evidence that humans were migrating into new environments is the fact that human remains start appearing in all parts of the African continent. By 100,000 years ago some groups had learned to live off the resources of seashore environments, such as shellfish; whereas others were adapting to lifeways in other new

our romantic images of civilized progress.... Hobbes was probably wrong by almost any measure when he characterized primitive life as "nasty, brutish and short" while speaking from the perspective of urban centers of seventeenth-century Europe. • Mark Cohen, Medical Anthropologist

environments, including tropical forests and deserts. Evidence that communities exchanged objects over distances up to several hundred kilometers suggests that communities were also exchanging information over considerable distances, and these exchanges may have been a vital stimulus to technological experimentation.

### MIGRATIONS FROM AFRICA

From about 100,000 years ago humans began to settle outside Africa; communities of modern humans existed in southwestern Asia, and from there humans migrated west and east to the southern, and warmer, parts of the Eurasian landmass. These migrations took humans into environments similar to those of their African homeland; thus, they do not necessarily indicate any technological breakthroughs. Indeed, many other species had made similar migrations between Asia and Africa. However, the appearance of humans in Ice Age Australia by forty thousand to fifty thousand years ago is a clear sign of innovation because traveling to Australia demanded sophisticated seagoing capabilities, and within Australia humans had to adapt to an entirely novel biological realm. We know of no other mammal species that made this crossing independently.

Equally significant is the appearance of humans in Siberia from about thirty thousand years ago. To live in the steppes (vast, usually level and treeless tracts) of Inner Asia during the last ice age, you had to be extremely good at hunting large mammals such as deer, horse, and mammoth because edible plants were scarcer than in warmer climates. You also had to be able to protect yourself from the extreme cold by using fire, making close-fitting clothes, and building durable shelters. By thirteen thousand years ago humans had also reached the Americas, traveling either across the Ice Age land bridge of Beringia, which linked eastern Siberia and Alaska, or by sea around the coasts of Beringia. Within two thousand years of en-

For more on these topics, please see the following articles:

Afro-Eurasia p. 44 (v1)

Asia p. 184 (v1)

Europe p. 691 (v2)

tering the Americas, some groups had reached the far south of South America.

Each of these migrations required new technologies, new botanical and biological knowledge, and new ways of living; thus, each represents a technological breakthrough, within which numerous lesser technological adjustments took place as communities learned to exploit the particular resources of each microregion. However, no evidence indicates that the average size of human communities increased. During the era of foragers, technological change led to more extensive rather than more intensive settlement; humans settled more of the world, but they continued to live in small nomadic communities.

### Human Impacts on the Environment

The technological creativity that made these migrations possible ensured that, although foragers normally had a limited impact on their environments, their impact was increasing. The extinction of many large animal species (megafauna) and the spread of what is known as "firestick farming" provide two spectacular illustrations of the increasing human impact on the environment, although controversy still surrounds both topics.

### Megafaunal Extinctions

Within the last fifty thousand years many species of large animals have been driven to extinction, particularly in regions newly colonized by humans, whether in Australia, Siberia, or the Americas. Australia and the Americas may have lost 70–80 percent of all mammal species weighing more than 44 kilograms; Europe may have lost about 40 percent of large-animal species; whereas Africa, where humans and large mammals had coexisted for much longer, lost only about 14 percent. As archaeologists pinpoint the date of these extinctions more precisely, they appear to coincide with the first arrival of modern

For more on these topics, please see the following articles:

Art, Paleolithic p. 180 (v1)

Extinctions p. 722 (v2)

Fire p. 745 (v2)

Technology—Overview p. 1806 (v5)

By providing a coherent, intelligible account of the past, [history] satisfies a profound human yearning for knowledge about our roots. It requires no justification other than that. • Theodore S. Hamerow (b. 1920)

humans, increasing the probability that they were *caused* by humans.

Similar extinctions during recent centuries, such as the extinction of the large birds known as "moas" in New Zealand, offer a modern example of what may have happened as humans with improved hunting techniques and skills encountered large animals who had little experience of humans and whose low reproduction rates made them particularly vulnerable to extinction. The loss of large-animal species in Australia and the Americas shaped the later histories of these regions insofar as the lack of large animals meant that humans were unable to exploit large animals as beasts of burden and sources of foodstuffs and fibers.

### Fire-Stick Farming

A second example of the increasing environmental impact of early foragers is associated with what the Australian archaeologist Rhys Jones called "fire-stick farming." Fire-stick farming is not, strictly, a form of farming at all. However, it is, like farming, a way of manipulating the environment to increase the productivity of animal and plant species that humans find useful. Fire-stick farmers regularly burn off the land to prevent the accumulation of dangerous amounts of fuel. Regular firing also clears undergrowth and deposits ash. In effect, it speeds up the decomposition of dead organisms, which encourages the growth of new shoots that can attract grazing animals and the animals that prey on them.

Humans systematically fired the land on all the continents they settled, and through time the practice probably transformed local landscapes and altered the mix of local animal and plant species. In Australia, for example, fire-stick farming through tens of thousands of years probably encouraged the spread of eucalyptus at the expense of species that were less comfortable with fire, creating landscapes very different from those encountered by the first human immigrants.

### PICKING UP THE PACE

From about fifty thousand years ago the rate of technological change began to accelerate. Migrations to new

continents and new environments are one expression of that acceleration. However, new technologies and techniques also proliferated. Stone tools became more precise and more varied, and many may have been hafted. People made more use of new materials such as bone, amber, and vegetable fibers. From about twenty thousand to thirty thousand years ago, new and more sophisticated tools appeared, including bows and arrows and spear throwers.

Foragers in tundra (level or rolling treeless plain that is characteristic of arctic and subarctic regions) regions used bone needles to make carefully tailored clothes from animal skins; sometimes they covered their clothing with elaborate ornamentation made from animal teeth or shells. The remains of prey species show that hunters, particularly in cold climates, became more specialized in their hunting techniques, suggesting increasingly sophisticated understanding of different environments. Cave paintings and sculptures in wood or bone began to appear in regions as disparate as Africa, Australia, Mongolia, and Europe.

### Affluent Foragers

Accelerating technological change accounts for one more development that foreshadowed the changes that would eventually lead to the agrarian era. Most foraging technologies can be described as "extensive": They allowed humans to occupy larger areas without increasing the size of individual communities. Occasionally, though, foragers adopted more intensive techniques that allowed them to extract more resources from a given area and to create larger and more sedentary communities. Evidence for such changes is particularly common from about twenty thousand to fifteen thousand years ago and is best known from the corridor between Mesopotamia (the region of southwestern Asia between the Tigris and Euphrates rivers) and Sudan—the region that links Africa and Eurasia. Anthropologists have long been aware that foragers living in environments of particular abundance will sometimes become less nomadic and spend longer periods at one or two main home bases. They may also become more sedentary if they





Indigenous peoples of the North American northwest subsisted from fishing and exhibited a way of life called affluent foraging. The illustration is of the designs on a large Tsimshian box used to store blankets, an important form of wealth.

devise technologies that increase the output of resources from a particular area. Anthropologists refer to such foragers as "affluent foragers."

The examples that follow are taken from Australia from a region in which foraging lifeways can be studied more closely because they have survived into modern times. During the last five thousand years new, smaller, and more finely made stone tools appeared in many parts of Australia, including small points that people may have used as spear tips. Some tools were so beautifully made that they were traded as ritual objects over hundreds of miles. New techniques meant new ways of extracting resources. In the state of Victoria people built elaborate eel traps, some with canals up to 300 meters long. At certain points people constructed nets or tapered traps, using bark strips or plaited rushes, to harvest the trapped eels. So many eels could be kept in these eel



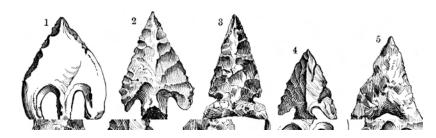
farms that relatively permanent settlements appeared nearby. One site contains almost 150 small huts built of stone. In addition to eels, the inhabitants of these small settlements lived off local species of game, from emu to kangaroo, as well as local vegetable foods such as daisy yam tubers, ferns, and convolvulus (herbs and shrubs of the morning glory family).

Some communities began to harvest plants such as yams, fruit, and grains in ways that suggest early steps towards agriculture. Yams were (and are today) harvested in ways that encouraged regrowth, and people deliberately planted fruit seeds in refuse heaps to create fruit groves. In some of the more arid areas of central Australia, early European travelers observed communities harvesting wild millet with stone knives and storing it in large haystacks. Archeologists have discovered grindstones, which were used to grind seeds as early as fifteen thousand years ago in some regions. In many coastal regions of Australia fishing using shell fishhooks and small boats also allowed for denser settlement. In general, the coasts were more thickly settled than inland areas.

The appearance of communities of affluent foragers prepared the way for the next fundamental transition in human history: the appearance of communities that systematically manipulated their environments to extract more resources from a given area. The set of technologies that these people used is often called "agriculture"; we refer to the era in which agriculture made its appearance as the "agrarian era."

# The Era of Foragers in World History

Historians have often assumed that little changed during the era of foragers. In comparison with later eras of human history this assumption may seem to be true. It is also true that change was normally so slow that it was imperceptible within a single lifetime; thus, few men and women in the era of foragers could have appreciated the wider significance of technological changes. Nevertheless, in comparison with the prehuman era, the pace of technological change during the era of foragers was striking.



A selection of Foraging Era flaked arrowheads from (1) Ireland; (2) France; (3) North America; (4) South America; and (5) Japan.

Exploiting the technological synergy (the creative power generated by linking people through language) that was made available to humans by their capacity for symbolic language, human communities slowly learned to live successfully in a wide variety of new environments. A gradual accumulation of new skills allowed foraging communities to settle most of the world in migrations that have no precedent either among other primate species or among our hominid ancestors.

During the course of 250,000 years the pace of change was slowly accelerating. During the last fifty thousand years or so, the variety and precision of foraging technologies and techniques multiplied throughout the world. Eventually foraging technologies became sophisticated enough to allow groups of people in some regions to exploit their surroundings more intensively, a change that marks the first step toward agriculture.

### **Further Reading**

Burenhult, G. (Ed.). (1993). The illustrated history of mankind: Vol. 1. The first humans, human origins and history to 10,000 BC. St. Lucia, Australia: University of Queensland Press.

Christian, D. (2004). Maps of time: An introduction to big history. Berkeley and Los Angeles: University of California Press.

Fagan, B. M. (2001). People of the Earth: An introduction to world prehistory (10th ed.). Upper Saddle River, NJ: Prentice Hall.

Flannery, T. (1995). The future eaters: An ecological history of the Australasian lands and peoples. Port Melbourne, Australia: Reed Books.

Flood, J. (1983). Archaeology of the Dreamtime: The story of prehistoric Australia and her people. Sydney, Australia: Collins.

Johnson, A. W., & Earle, T. (2000). The evolution of human societies (2nd ed.). Stanford, CA: Stanford University Press.

Jones, R. (1969). Fire-stick farming. Australian Natural History, 16(7), 224–228.

Klein, R. G. (1999). The human career: Human biological and cultural origins (2nd ed.). Chicago: University of Chicago Press.

Livi-Bacci, M. (1992). A concise history of world population. Oxford, UK: Blackwell.

McBrearty, S., & Brooks, A. S. (2000). The revolution that wasn't: A new interpretation of the origin of modern human behavior. *Journal of Human Evolution*, 39(5), 453–563.

McNeill, J. R., & McNeill, W. H. (2003). The human web: A bird's-eye view of world history. New York: W. W. Norton.

Richerson, P. T., & Boyd, R. (2004). Not by genes alone: How culture transformed human evolution. Chicago: University of Chicago Press.

Roberts, N. (1998). The Holocene: An environmental history (2nd ed.). Oxford, UK: Blackwell.

Sahlins, M. (1972). Stone Age economics. London: Tavistock.

Wolf, E. R. (1982). Europe and the people without history. Berkeley and Los Angeles: University of California Press.

# Acceleration: The Agrarian Era



The agrarian era began ten thousand to eleven thousand years ago with the appearance of the first agricultural communities. We can define the agrarian era as "the era of human history when agriculture was the most important of all productive technologies and the foundation for most human societies." It ended during the last 250 years as modern industrial technologies overtook agriculture in productivity and began to transform human lifeways. Although the agrarian era lasted a mere ten thousand years, in contrast to the 250,000 years of the era of foragers, 70 percent of all humanity may have lived during the agrarian era, their burgeoning numbers sustained by the era's productive technologies.

The agrarian era was characterized by greater diversity than either the era of foragers or the modern era. Paradoxically, diversity was a product both of technological innovations and of technological sluggishness because although new technologies such as agriculture and pastoralism (livestock raising) created new ways of living, the limits of communications technologies ensured that different parts of the world remained separate enough to evolve along independent trajectories. At the largest scale we can identify several distinct "world zones," or regions that had no significant contact with each other before about 1500 CE. The most important were the Afro-Eurasian landmass from the far south of Africa to the far northeast of Siberia, the Americas, Australia, and the islands of the Pacific.

Within each world zone long and sometimes tenuous webs of cultural and material exchanges linked local communities into larger networks of exchanges. In some of the world zones the dense networks of political, cultural,

and economic exchanges known as "agrarian civilizations" emerged, and through time these civilizations linked with other agrarian civilizations and with peoples living between the main zones of agrarian civilization. However, we know of no significant contacts between the different world zones before 1500 CE. The great diversity of lifeways and the relative isolation of different regions explain why we have more difficulty making generalizations that apply to the entire world during this era than during the era of foragers or the modern era.

Despite this diversity, striking parallels exist between the historical trajectories of different parts of the world. Agriculture appeared quite independently in several regions; so did states, cities, monumental architecture, and writing. These parallels raise deep questions about long-term patterns of historical change. Does human history have a fundamental shape, a large trajectory that is apparent in all regions and under diverse social and ecological conditions? If such a shape exists, does it arise from the nature of our species or from basic principles of cultural evolution? Or are the similarities misleading? Do the diversity and open-endedness of human historical experience deserve most emphasis on the large scales of world history?

### Origins of Agriculture

The word *agriculture* is used here to describe an evolving cluster of technologies that enabled humans to increase the production of favored plant and animal species. Ecologically speaking, agriculture is a more efficient way than foraging to harvest the energy and resources stored in the natural environment as a result of photosynthesis.

Agriculture represents the single most profound ecological change in the entire 3.5 billion-year history of life. • NILES ELDREDGE (B. 1943)

Because farmers interfere with their surroundings more deliberately than foragers, agriculture magnified the human impact on the natural environment and also on the cultures and lifeways of humans themselves. Agriculturalists manipulated plant and animal species so intensely that they began to alter the genetic makeup of prey species in a process commonly referred to as "domestication." By clearing forests, diverting rivers, terracing hillsides, and plowing the land, agriculturalists created landscapes that were increasingly anthropogenic (shaped by human activity).

Finally, by altering their own lifeways, agriculturalists created new types of communities, radically different in scale and complexity from those of the era of foragers. Humans did not domesticate just other species; they also domesticated themselves.

Agriculture does not automatically increase the biological productivity of the land. Indeed, agriculturalists often reduce total productivity by removing the many species for which they have no use. They increase the productivity only of those plants and animals that they find most useful; removing undesired plants leaves more nutrients, sunlight, and water for domesticated crops such as corn, wheat, or rice, while killing wolves and foxes allows cattle, sheep, and chickens to flourish in safety. By increasing the productivity of favored prey species, humans

could feed more of themselves from a given area than would have been possible using foraging technologies.

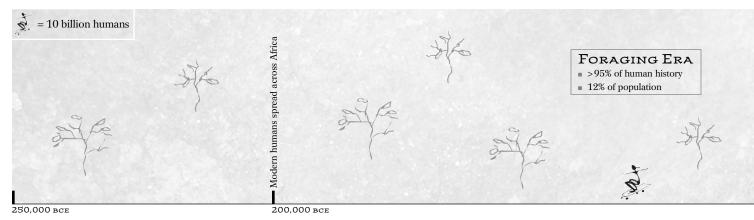
Whereas technological change during the era of foragers was extensive (it allowed humans to multiply by increasing their range), technological change during the agrarian era was intensive (it allowed more humans to live within a given range). As a result, humans and their domesticates began to settle in larger and denser communities; as they did so they transformed their ecological and social environments. The result was a revolution in the pace and nature of historical change.

#### Earliest Evidence of Agriculture

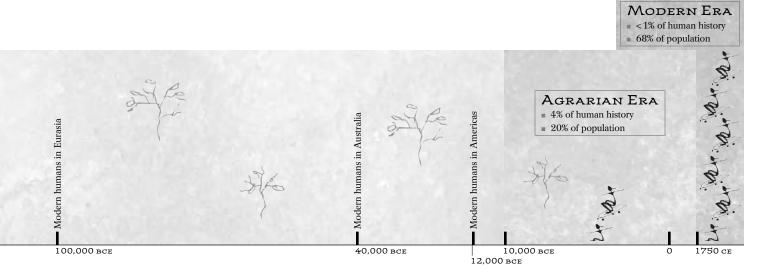
Dates for the earliest evidence of agriculture remain subject to revision. At present the earliest clear evidence comes from the corridor between Sudan and Mesopotamia that links Africa and Eurasia. In the Fertile Crescent (the arc of highlands around the great rivers of Mesopotamia) grain crops were cultivated from about 8000 BCE (ten thousand years ago). In the Sahara Desert west of the Nile River, in lands that then were much less arid than they are today, communities may have domesticated cattle as early as 9000 or 8000 BCE, and within a thousand years these same communities may have started cultivating sorghum. In west Africa yam cultivation may also have begun around 8000 BCE. In China people were

### 250,000 Years of Human History

(NOT DRAWN TO SCALE)



	Key Events in the Agrarian Era
13,000-	Some humans begin to live in settled communities.
11,000 BCE	
9000-	Cattle are domesticated in the Sahara region of Africa.
8000 BCE	
8000 BCE	Grain crops are cultivated in Mesopotamia.
	Yams are cultivated in West Africa.
7000 все	Grains and rice are cultivated in the north and south of China.
	Yams and taro are cultivated in Papua New Guinea.
	Squash is cultivated in Mesoamerica.
4000 BCE	The secondary products revolution takes place in parts of Afro-Eurasia.
3000 BCE	Plants are cultivated in the Andes region of South America.
	Cities and states appear in Mesopotamia and Egypt.
2500 все	Cities and states appear in India, Pakistan and northern China.
2000 все	Eurasian trade networks develop.
1000 все	Cities and states appear in Mesoamerica and the Andes.
500 все-	New cities and states emerge, population increases, and interregional trade
1000 ce	networks develop.
500-1200 ce	Many of the Pacific islands are settled.
1200 ce	Europeans reach the Americas.
1500 ce	All major world regions are linked through migration and trade.
1750 ce	The Agrarian Era begins to decline with the appearance and spread of industrialization.



In truth, the historian can never get away from the question of time in history: time sticks to his thinking like soil to a gardener's spade. • Fernand Braudel (1902–1985)

For more on these topics, please see the following articles:

Andean States p. 86 (v1)

China p. 332 (v1)

Egypt, Ancient p. 629 (v2)

Mesoamerica p. 1230 (v3)

Mesopotamia p. 1235 (v3)

probably cultivating rice in the south and other grains in the north by 7000 BCE. By this time farming based on the cultivation of taro (a large-leaved tropical Asian plant) and yam evidently existed in Papua New Guinea in the Malay Archipelago. Communities probably farmed root crops early in many coastal communities in the tropics, although most traces of such communities would have been submerged as sea levels rose at the end of the last ice age. In Mesoamerica (the region of southern North America that was occupied during pre-Columbian times by peoples with shared cultural features) people probably domesticated squash as early as 7000 BCE, but clearer evidence of systematic agriculture does not appear before 5000 BCE; in the Andes region the earliest evidence comes after about 3000 BCE. From these and perhaps a few other regions in which agriculture appeared quite independently, agricultural technologies and ways of life eventually spread to most of the world.

At present we lack a fully satisfactory explanation for the origins of agriculture. Any explanation must account for the curious fact that, after 200,000 years or more during which all humans lived as foragers, agricultural lifeways appeared within just a few thousand years in parts of the world that had no significant contact with each other. The realization that agriculture arose quite independently in different parts of the world has undermined the once-fashionable view that agriculture was a brilliant invention that diffused from a single center as soon as people understood its benefits. That view was also undermined after researchers realized that foragers who know about agriculture have often preferred to remain foragers. Perhaps foragers resisted change because the health and nutritional levels of the first farmers were often lower than those of neighboring foragers, whereas their stress levels were often higher. If agriculture depressed living standards, then an explanation of the origins of agriculture must rely more on "push" than on "pull" factors. Rather than taking up agriculture willingly, we must assume that many early agriculturalists were forced to take it up.

#### Affluent Foragers

The outlines of such an explanation are now available, even if many details remain to be tested in particular instances. The origins of agriculture have been studied most thoroughly in Mesopotamia and in Mesoamerica. In both areas the first agricultural villages appeared after many centuries during which foragers intensified their exploitation of particular favored resources, adapting their tools and techniques with increasing precision and efficiency to local environments. This was the first step towards agriculture. When taken far enough, such techniques can turn conventional foragers into what anthropologists call "affluent foragers." Affluent foragers extract more resources from a given area than traditional foragers. Eventually they may extract enough resources to become semisedentary, living in one place for much of the year. This development is particularly likely where prey resources such as fish or wild grains are unusually abundant. The appearance of such communities in many parts of the world toward the end of the last ice age tempts us to link such changes with the erratic global warming that began sixteen thousand to eighteen thousand years ago.

In both temperate and tropical zones warmer climates may have created local "gardens of Eden"—regions of exceptional abundance—where highly nutritious plants such as wild wheats that had once been scarce thrived and spread. Indeed, intensive agriculture may have been impossible under the harsh conditions of the last ice age; if so, the end of the last ice age was a crucial enabling feature, making agriculture possible for the first time in perhaps 100,000 years.

For more on these topics, please see the following articles:

Carrying Capacity p. 297 (v1)

Foraging Societies, Contemporary p. 764 (v2)

Indigenous Peoples p. 963 (v3)



The end of the last ice age also coincided with the final stages of the great global migrations of the era of foragers. As the anthropologist Mark Cohen has pointed out, by the end of the last ice age few parts of the world were unoccupied, and some parts of the world may have been overpopulated, at least by the standards of foragers. Perhaps the coincidence of warmer, wetter, and more productive climates with increasing population pressure in some regions explains why, in several parts of the world beginning ten thousand to eleven thousand years ago, some communities of foragers began to settle down. The classic example of this change comes from the Natufian communities of the fertile highlands around Mesopotamia fourteen thousand to twelve thousand years ago. Natufian communities were largely sedentary but lived as foragers, harvesting wild grains and gazelle. Similar communities, harvesting wild sorghum, may have existed even earlier in modern Ethiopia, east of the Nile River.

#### Full-Blown Agriculture

Eventually some sedentary or semisedentary foragers became agriculturalists. The best explanation for this second stage in the emergence of agriculture may be demographic. As mentioned earlier, modern studies of nomadic foragers suggest that they can systematically limit population growth through prolonged breast feeding (which inhibits ovulation) and other practices, including infanticide and senilicide (killing of the very young and the very old, respectively). However, in sedentary communities in regions of ecological abundance such restraints were no longer necessary and may have been relaxed. If so, then within just two or three generations sedentary foraging communities that had lived in regions of abundance for a generation or two may have found that they were outstripping available resources once again.

Overpopulation would have posed a clear choice: Migrate or intensify (produce more food from the same area). Where land was scarce and neighboring communities were also feeling the pinch, people may have had no choice at all; sedentary foragers had to intensify. However, even those foragers able to return to their tra-

For more on these topics, please see the following articles: Agricultural Societies p. 52 (v1)

Cereals p. 321 (v1)
Population p. 1484 (v4)

Water Management p. 2036 (v5)

ditional, nomadic lifeways may have found that in just a few generations they had lost access to the lands used by their foraging ancestors and had also lost their traditional skills as nomadic foragers. Those communities that chose to intensify had to apply already-existing skills to the task of increasing productivity. They already had much of the knowledge they needed: They knew how to weed, how to water plants, and how to tame prey species of animals. The stimulus to apply such knowledge more precisely and more systematically was provided by overpopulation, whereas global warming made intensification feasible.

These arguments appear to explain the curious near-simultaneity of the transition to agriculture at the end of the last ice age. They also fit moderately well what is known of the transition to agriculture in several regions, particularly temperate regions where agriculture was based primarily on grains. They also help explain why, even in regions where developed agriculture did not appear, such as Australia, many of the preliminary steps toward agriculture do show up in the archaeological record, including the appearance of affluent, semisedentary foragers.

#### SEEDS OF CHANGE

After agriculture had appeared in any one region, it spread, primarily because the populations of farming communities grew much faster. Although agriculture may have seemed an unattractive option to many foragers, farming communities usually had more resources and more people than foraging communities. When conflict occurred, more resources and more people usually meant that farming communities also had more power. Agriculture spread most easily in regions that bordered established agricultural zones and that had similar soils, climates, and ecologies. Where environmental conditions were different, the spread of agriculture had to await

new techniques such as irrigation or new crops better adapted to the regions of new settlement.

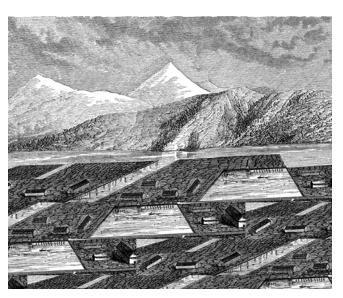
Such changes are apparent, for example, as agriculture spread from southwestern Asia into the cooler and usually wetter environments of eastern, central, and northern Europe or as maize cultivation spread northward from Mesoamerica, a process that depended in part on subtle genetic changes in local varieties of maize. Where new techniques were not available, foragers survived much longer, and the spread of agriculture could be checked, sometimes for thousands of years, as it was at the edge of the Eurasian steppes, which were not brought into cultivation until modern times. Usually agriculture spread through a process of budding off as villages became overpopulated and young families cleared and settled suitable land beyond the borders of their home villages.

# General Characteristics and Long Trends

Agricultural communities share important characteristics that give the agrarian era an underlying coherence despite its extraordinary cultural diversity. These characteristics include societies based on villages, demographic dynamism, accelerated technological innovation, the presence of epidemic disease, new forms of power and hierarchy, and enduring relations with nonagrarian peoples.

#### VILLAGE-BASED SOCIETIES

At the base of all agrarian societies were villages, more or less stable communities of farming households. Although the crops, the technologies, and the rituals of villagers varied greatly from region to region, all such peasant communities were affected by the annual rhythms of harvesting and sowing, the demands of storage, the need for



This drawing shows what an ancient lakedweller community in Denmark might have looked like.

cooperation within and among households, and the need to manage relations with outside communities.

#### Demographic Dynamism

The increased productivity of agriculture ensured that populations grew much faster than they had during the era of foragers. Rapid population growth ensured that villages and the technologies that sustained them would eventually spread to all regions in which agriculture was viable. Modern estimates suggest that during the agrarian era world populations rose from 6 million ten thousand years ago to 770 million in 1750. Although these figures hide enormous regional and chronological differences, they are equivalent to an average growth rate of approximately 0.05 percent per annum; on average, populations were doubling every fourteen hundred years. This rate can be compared with doubling times of eight thousand to nine thousand years during the era of foragers and approximately eighty-five years during the modern era.

For more on these topics, please see the following articles:

Agricultural Societies p. 52 (v1) Long Cycles p. 1160 (v3)

Carrying Capacity p. 297 (v1) Matriarchy and Patriarchy p. 1218 (v3)

Disease and Nutrition p. 538 (v2) Population p. 1484 (v4)

Diseases—Overview p. 543 (v2) Secondary-Products Revolution p. 1680 (v4)

Diseases, Animal p. 551 (v2) Water Management p. 2036 (v4)

Diseases, Plant p. 558 (v2)

### Accelerated Technological Innovation

Local population pressure, expansion into new environments, and increasing exchanges of ideas and goods encouraged many subtle improvements in agricultural techniques. Most improvements arose from small changes in the handling of particular crops, such as earlier or later planting, or the selection of better strains. However, on a broader scale, increased productivity arose from whole clusters of innovation that appeared in many environments. Swidden agriculturalists cleared forest lands by fire and sowed crops in the ashy clearings left behind; after a few years, when the soil's fertility was exhausted, they moved on. In mountainous areas farmers learned how to cultivate hillsides by cutting steplike terraces.

#### Secondary-Products Revolution

One of the most important of these clusters of innovation had its primary impact only in the Afro-Eurasian world zone: The archaeologist Andrew Sherratt has called it the "secondary-products revolution." From about 4000 BCE a series of innovations allowed farmers in Afro-Eurasia to make more efficient use of the secondary products of large livestock—those products that could be exploited without slaughtering the animals. Secondary products include fibers, milk, manure for fertilizer, and traction power to pull plows, carry people, and transport goods. In arid regions, such as the steppes of Eurasia, the deserts of southwestern Asia, or the savanna lands of east Africa, the secondaryproducts revolution generated the entirely new lifeway of pastoralism as entire communities learned to live off the products of their herds. Unlike members of the farming communities that were most typical of the agrarian era, pastoralists were usually nomadic because in the dry grasslands in which pastoralism flourished livestock had to be moved constantly to provide them with enough feed.

However, the main impact of the secondary-products revolution was in farming areas, where horses, camels, and oxen could be used to pull heavy plows and to transport goods and humans. The domestication of llamas meant that South America had some experience of the secondary-products revolution, but its major impact was

### The "Secondary-Products" Revolution

As illustrated by the excerpt below from the University of Oxford website, the "secondary-products" revolution is a theory that continues to be tested on artifacts dating back more than 6,000 years.

The first [project] involves the participation of Professor Andrew Sherratt of the School of Archaeology of the University of Oxford and curator of the European prehistoric collections in the Ashmolean Museum. It was he who suggested that the first domestic animals may have been used not for their "secondary products" (milk, wool, hair and traction), but for meat, and that milking and the exploitation of other secondary animal products became part of prehistoric farming practices only around 4000 BCE. This socio-economic transition helped promote social evolutionary changes such as the birth of pastoral nomadic communities, the emergence of the Mediterranean farming economy and the rise of complex State-level societies.

The Oxford Levantine Archaeology laboratory has provided pottery sherds from vessels found in Israel's Negev desert dating from c. 4500–4000 BCE to test Sherratt's "secondary-products-revolution" hypothesis by analysing residues for evidence of milk. The samples are currently being tested in Professor Richard Evershed's Biogeochemistry Research Centre at the University of Bristol.

Source: Oxford Centre for Hebrew and Jewish Studies. (2004). Retrieved September 8, 2004, from http://users.ox.ac.uk/~ochjs/levantine.html

felt in the Afro-Eurasian world zone because most potential domesticates had been driven to extinction in the Americas during the era of foragers. Many of the critical differences between the histories of Afro-Eurasia and the Americas may depend, ultimately, on this key technological difference.

#### Just Add Water

The techniques of water management known collectively as "irrigation" had an even greater impact on agricultural

### Terracing

Terraced fields snaking up hillsides are spectacular sights and major tourist attraction in Southeast Asian nations such as the Philippines and Indonesia. Some of the terraces have been maintained for over 2000 years. The following extract describing the types of terraces built by the Ifugao ethnic group of the northern Philippines indicates that terracing is more complex than it appears from a distance.

Habal "swidden" (slope field, camote field, kaingin). Slopeland, cultivated and often contour-ridged (and especially for sweet potatoes). Other highland dryfield crops (including taro, yams, manioc, corn, millet, mongo beans, and pigeon peas, but excluding rice except at elevations below 600–700 meters (2,000 feet) above sea level) are also cultivated in small stands or in moderately intercropped swiddens. Boundaries remain discrete during a normal cultivation cycle of several years. When fallow, succession is usually to a canegrass association. . . .

*lattan* "house terrace" (settlement, hamlet terrace, residential site). Leveled terrace land, the surface of which

is packed smooth or paved but not tilled; serving primarily as house and granary yards, work space for grain drying, and so forth; discrete, often fenced or walled, and named....

qilid "drained field" (drained terrace, ridged terrace). Leveled terrace land, the surface of which is tilled and ditch mounded (usually in cross-contour fashion) for cultivation and drainage of dry crops, such as sweet potatoes and legumes. Drained fields, though privately owned, are kept in this temporary state for only a minimum number of annual cycles before shifting (back) to a more permanent form of terrace use. . . .

payo "pond field" (bunded terrace, rice terrace, rice field). Leveled farmland, bunded to retain irrigation water for shallow inundation of artificial soil, and carefully worked for the cultivation of wet-field rice, taro, and other crops; privately owned discrete units with permanent stone markers; the most valued of all land forms.

Source: Conklin, H. C. (1967–68). Some Aspects of Ethnographic Research in Ifugao. New York Academy of Sciences, Transactions, ser. 2, 30, 107–108.

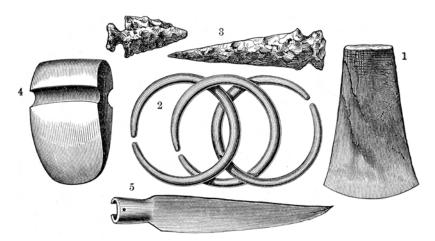
productivity. Irrigation farmers diverted small streams onto their fields, created new farm land by filling swamps with soil and refuse, or built systematic networks of canals and dams to serve entire regions. People practiced irrigation of some kind in Afro-Eurasia, in the Americas, and even in Papua New Guinea and the Pacific. Its impact was greatest in arid regions with fertile soils, such as the alluvial basins (regions whose soils were deposited by running water) of Egypt, Mesopotamia, the northern regions of the Indian subcontinent, northern China, and the lowlands of the Andean region. In these regions irrigation agriculture led to exceptionally rapid population growth.

As agriculture spread and became more productive, it supported larger, denser, and more interconnected communities. Within these communities population pressure and increasing exchanges of information generated a steady trickle of innovations in building, warfare, record keeping, transportation and commerce, and science and the arts. These innovations stimulated further demographic growth in a powerful feedback cycle that explains

why change was so much more rapid during the agrarian era than during the era of foragers. Yet, innovation was rarely fast enough to keep up with population growth. This lag explains why, on the scale of decades or even centuries, all agrarian societies experienced cycles of expansion and collapse that obscured the underlying trend toward growth. These cycles underlay the more visible patterns of political rise and fall, commercial boom and bust, and cultural efflorescence (blooming) and decay that have so fascinated historians. (Such patterns of growth and decline can be described as "Malthusian cycles," after Thomas Malthus, the nineteenth-century English economist who argued that human populations will always rise faster than the supply of food, leading to periods of famine and sudden decline.)

#### EPIDEMIC DISEASES

Population growth could be slowed by epidemic diseases as well as by low productivity. Foraging communities were largely free of epidemic diseases because they were



A selection of stone and bronze implements recovered from agrarian era state-level centers in Mesoamerica. (1) axe; (2) bracelets; (3) arrow points; (4) stone axe; and (5) bronze knife.

small and mobile, but farming communities created more favorable environments for pathogens (causative agents of disease). Close contact with livestock allowed pathogens to move from animals to humans, accumulations of rubbish provided fertile breeding grounds for diseases and pests, and large communities provided the abundant reserves of potential victims that epidemic diseases need to flourish and spread. Thus, as populations grew and exchanges between communities multiplied, diseases traveled more freely from region to region. Their impact took the form of a series of epidemiological decrescendos that began with catastrophic epidemics and were followed by less disastrous outbreaks as immune systems in region after region adapted to the new diseases.

As the historian William McNeill has shown, long-range epidemiological exchanges within the Afro-Eurasian world zone immunized the populations of this zone against a wide range of diseases to which populations in other world zones remained more vulnerable. Trans-Eurasian epidemiological exchanges may help explain the slow growth of much of Eurasia during the first millennium CE; they may also explain why, once the world was united after 1500 CE, epidemiological exchanges had a catastrophic impact on regions outside Afro-Eurasia.

#### HIERARCHIES OF POWER

In many tropical regions people harvested root crops piecemeal as they were needed. However, in regions of grain farming, such as southwestern Asia, China, and Mesoamerica, plants ripened at the same time; thus, entire crops had to be harvested and stored in a short period. For this reason grain agriculture required people, for the first time in history, to accumulate and store large

surpluses of food. As villages of grain farmers multiplied and their productivity rose, the size of stored surpluses grew. Conflicts over control of these increasingly valuable surpluses often triggered the emergence of new forms of inequality and new systems of power.

Stored surpluses allowed communities for the first time to support large numbers of nonfarmers: specialists such as priests, potters, builders, soldiers, or artists who did not farm but rather supported themselves by exchanging their products or services for foodstuffs and other goods. As farmers and nonfarmers exchanged goods and services, a complex division of labor appeared for the first time in human history. Specialization increased interdependence between households and communities and tightened the webs of obligation and dependence that bound individuals and communities together. Eventually surpluses grew large enough to support elite groups whose lives depended primarily on their ability to control and manage the resources produced by others, either through exchanges of goods and services or through the threat of force. Human societies became multilayered as some groups began to specialize in the exploitation of other men and women, who exploited farmers, who exploited the natural environment. William McNeill has called these elite groups "macroparasites," whereas the anthropologist Eric Wolf has called them "tribute takers."

## Relations with Nonagrarian Communities

Finally, the agrarian era was characterized by complex relations between agrarian communities and other types of communities. Throughout this era pastoralists and foragers living outside the main agricultural regions continued to have a significant impact on agrarian communities by mediating exchanges between agrarian regions and sometimes by introducing technologies (such as the many technologies associated with pastoralism, from improved saddles to improved weaponry) or by trading valued goods such as furs or ivory or feathers.

# Agrarian Communities before Cities: 8000-3000 BCE

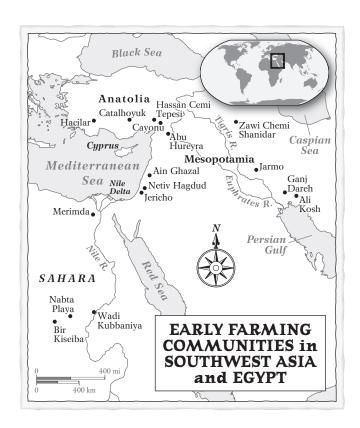
The *early* agrarian era is that time when agrarian communities existed, but no large cities or states. In Afro-Eurasia this time extended from about 8000 BCE until about 3000 BCE, when the first cities emerged; in the Americas this time began later and lasted longer, and in parts of the Australasian and Pacific world zones it lasted until modern times.

#### A World of Villages

During the early agrarian era villages were the largest communities on Earth and the most important sources of demographic and technological dynamism. In today's world, in which villages are marginal demographically, technically, culturally, and politically, we could all too easily forget the crucial historical role that villages played for many millennia. During the early agrarian era most villages practiced forms of agriculture that anthropologists might refer to as "horticulture" because they depended mainly on the labor of humans (and particularly of women, if modern analogies can be relied on), whereas their main agricultural implements were digging sticks of many kinds. However, these communities also pioneered important innovations such as irrigation and terracing, which eventually allowed the appearance of more populous communities. Thus, villages accounted for much of the demographic and geographical expansion of the agrarian world through many thousands of years.

#### Emergence of Hierarchy

Within the villages of the early agrarian era men and women first encountered the revolutionary challenges posed by the emergence of larger, denser, and more hierarchical communities. As communities became larger,



people had to find new ways of defining their relationships with neighbors, determining who had access to stored resources, administering justice, and organizing warfare, trade, and religious worship. As specialization spread, communities had to find ways of regulating exchanges and conflicts between persons whose interests and needs were increasingly diverse. The simple kinship rules that had provided all the regulation necessary in small foraging communities now had to be supplemented with more elaborate rules regulating behavior between people whose contacts were more anonymous, more fleeting, and less personal. Projects involving entire communities, such as building temples, building canals, and waging warfare, also required new types of leadership.

The archaeological evidence shows how these pressures, all linked to the growing size of human communities, led to the creation of institutionalized political and economic hierarchies, with wealthy rulers, priests, and merchants at one pole and propertyless slaves or vagrants at the other pole. Archaeologists suspect the presence of institutionalized hierarchies wherever burials or residences begin to vary greatly in size within a community. Where children were buried with exceptional extravagance, we can be pretty sure that emerging hierarchies were hereditary, so parents could pass their status on to

# The agrarian era was marked by more permanent settlements and accompanying graveyards. This photo is of the remains of a stone burial mound in Scotland.

their children. Where monumental structures appeared, such as the statues on Easter Island in the Pacific Ocean or giant stone circles such as Stonehenge in Britain, we can be certain that leaders existed with enough power to organize and coordinate the labor of hundreds or thousands of persons.

#### Early Glass Ceiling

Gender hierarchies may have been among the earliest forms of institutionalized hierarchies. As members of households established more complex relationships with outsiders, they came under the influence of new rules, structures, and expectations. An emerging division of labor also created new opportunities outside the household and the village. Yet, in a world where the economic and social success of each household depended on bearing and rearing as many children as possible, women usually had fewer opportunities to take on more specialized roles—some of which brought great wealth and power. The linguist and archaeologist Elizabeth Barber has argued that this fact may explain why men were more likely to occupy high-ranking positions in emerging hierarchies. Warfare may also have changed gender relations as population growth intensified competition between communities and as men began to monopolize the organization of violence.

Whatever the cause, the disproportionate presence of men in external power structures reshaped relations and attitudes within the village and the household. Men began to claim a natural superiority based on their role in emerging power structures outside the household, and women were increasingly defined by their role within the household and their relationships to men. Even the many women who earned money outside the household usually did so in jobs associated with the tasks of the household. Within the household the demands of peasant life ensured that men and women continued to work in partnership. At this intimate, domestic scale relationships owed as much to personal qualities as to gender. However, beyond the household the powerful web of cultural expectations and power relations now known as "patriarchy" emerged.



#### Leaders and Leadership

Hierarchies of power shaped many other relationships as local communities were drawn into wider networks of exchange. In these larger networks traditional kinship thinking no longer worked. Genealogies began to take on semifictional forms that allowed entire communities to claim descent from the same, often mythical ancestor. Such genealogies could generate new forms of hierarchy by ranking descent groups according to their exact relationship to the founder. Where descendants of senior lines claimed higher status, aristocracies began to appear. However, when people chose leaders, ability usually counted for as much as birth. Where high-born people lacked leadership skills, persons with more talent as conciliators, warriors, or mediators with the gods were chosen to support or replace them. Most simple forms of leadership derived from the needs of the community; thus, they depended largely on popular consent. This consent made early power structures fragile because the power of leaders could evaporate all too easily if they failed in the tasks for which they were chosen.

However, as communities expanded, the resources available to their leaders increased until leaders began to set aside a share of those resources to support specialist enforcers or rudimentary armies. In this way leaders whose power originated in the collective needs of their subjects eventually acquired the ability to coerce at least some of those they ruled and to back up the collection of resources and the control of labor with the threat of force. The details of such processes are largely hidden from us, although archaeological evidence and anthropological research can give us many hints of how some of these processes played out in particular communities. These processes prepared the way for the more powerful political structures that we know as "states." States appeared in

### A carving of Kaban-Puuc, the ancient Mayan god of maize (corn) and rain.

parallel with the large, sedentary communities we know as "cities."

# The Earliest Cities and States: 3000 BCE-500 BCE

For those people who define history as "the study of the past through written records," the period from 3000 BCE to 500 BCE was when history truly began because this was when the first written documents appeared in the two largest world zones: Afro-Eurasia and the Americas. From the perspective of world history this period marked a new stage in the complexity and size of human communities. In Afro-Eurasia, the largest and most populous of all world zones, the first cities and states appeared about 3000 BCE. In the Americas they appeared more than two thousand years later, in Mesoamerica and Peru. In the Australasian zone neither cities nor states appeared during the agrarian era; but in the Pacific zone embryonic states emerged on islands such as Tonga or Hawaii within the last thousand years.

If a single process accounts for the emergence of the first cities and states, it is increasing population density. The earliest cities and states appeared where people were most closely packed together, often because of the rapid expansion of irrigation agriculture. Sudden increases in population density intensified all the problems of coordination and control posed by large communities and

For more on these topics, please see the following articles:

Andean States p. 86 (v1)

Babylon p. 229 (v1)

China p. 332 (v1)

Egypt, Ancient p. 629 (v2)

Harappan State and Indus Civilization p. 889 (v3)

Mesoamerica p. 1230 (v3)

Mesopotamia p. 1235 (v3)

Pacific, Settlement of p. 1406 (v4)

Sumerian Society p. 1796 (v4)

Trading Patterns, Ancient American p. 1848 (v5)

Trading Patterns, Ancient European p. 1852 (v5)

Trading Patterns, Mesoamerican p. 1874 (v5)

Writing Systems and Materials p. 2095 (v5)



greatly increased the need for specialist leaders. Rapid growth also multiplied the resources available to leaders. Thus, by and large the earliest cities appeared at about the same time as the earliest states. Cities can be defined as "large communities with a complex internal division of labor." (In contrast, villages, and even some early towns, such as the town of Catalhuyuk in Turkey, which dates from 6000 BCE, normally consisted of roughly similar households, mostly engaged in agriculture, with limited hierarchies of wealth and little specialization of labor.) States can be defined as "power structures that rest on systematic and institutionalized coercion as well as on popular consent."

Cities and states appeared as part of a larger cluster of social innovations, all of which were linked to the increasing scale and complexity of human societies in regions of highly productive agriculture. These innovations included the organization of specialized groups of officials and soldiers, writing, coercive forms of taxation, and monumental architecture.

#### Afro-Eurasia and the Americas

Because such an intimate connection existed between agricultural intensification and the appearance of cities and states, we should not be surprised that the earliest evidence for cities and states comes from regions with ancient agricultural traditions. The earliest clear evidence for communities large enough to be called "cities" and powerful enough to be called "states" comes from the ancient corridor from Sudan to Mesopotamia that links Africa and Eurasia. Some of the earliest states appeared

### Documenting a Neolithic Settlement in the Electronic Age

Since 1993, an international team of archaeologists has been excavating the ancient city of Catalhoyuk in present-day Turkey, resuming an effort first begun in the 1960s. In an effort to bring alive the 9,000-year-old artifacts being found at the Catalhoyuk "dig," team member Rebecca Daly maintains a weblog (blog) on the excavation website. Below is her entry for 28 July 2004.

Bleda is beginning the burial that was next to the sheep today, which thrills both of us, because we both suspect that there is some incredible stuff in that burial. There are a lot of burials coming out now, the human remains lab are tearing their hair out trying to get everything done. Just when they think they're going to catch up, more things appear! Sure enough, Bleda has come up with an interesting bird bone thing that both he and Lori, who's from the human

remains lab doing the burial, think is a flute. It's certainly the right shape, and it has had both of the ends knocked off which suggests they wanted to use the inside for something. I have high hopes, Bleda seems to attract the interesting objects. It would be really amazing if this is actually a flute of some sort, it would be the earliest musical instrument. The burial was sprinkled with ochre both under and over it, which suggests that it was a really important part of the burial process in this case. This was obviously a very significant burial anyway, what with the whole lamb, but this makes it even more so—there is some suggestion of the order in which the burial activities took place.

Source: Mysteries of Catalhoyuk. (2004). Retrieved September 8, 2004, from http://ltc.smm.org/catal/updates/

during the centuries before 3000 BCE in southern Mesopotamia in the region known to archaeologists as "Sumer" and also along the Nile River in modern Egypt and Sudan. During the next thousand years evidence of cities and states appeared also in the Indus River valley in modern Pakistan and in northern China.

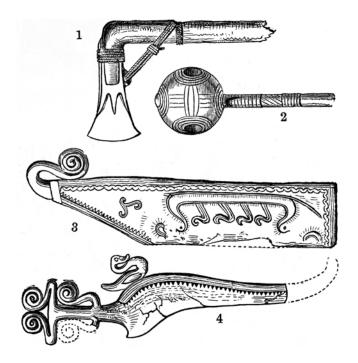
In the Americas we can trace a similar pattern of evolution from villages toward cities and states, but the earliest evidence for both changes came much later. Although large communities and powerful leaders existed in Mesoamerica in the lands of the Olmecs (in Mexico's southern gulf coast) by the second millennium BCE, most archaeologists would argue that the first true cities and states in the Americas appeared late during the first millennium BCE, in regions such as the Oaxaca Valley or farther south in the heartland of Mayan civilization. In the Andes, too, statelike communities, such as the Moche culture, appeared at the end of the first millennium BCE.

#### AGRARIAN CIVILIZATIONS

From these and other core areas the traditions of early statehood spread to adjacent regions as populations expanded and networks of material and cultural exchanges knit larger regions together, generating greater concentrations of wealth and power. As they spread, states carried with them a core set of institutions and practices associated with what are often called "agrarian civilizations." Directly or indirectly, the spread of agrarian civilizations reflected the increasing scale and density of human populations. Cities were simply the most concentrated and largest of all human communities. States were the large, coercive power structures that were necessary to administer and defend city-scale communities, and they were funded by the large concentrations of wealth found in cities and their hinterlands.

Collecting that wealth by force often began with crude forms of looting that eventually turned into the more formalized looting that we call "taxation." Managing large stores of wealth required new forms of administration and new forms of accounting; indeed, in all emerging states writing apparently emerged first as a technique to keep track of large stores of wealth and resources. Even in the Inca state, where no fully developed system of writing emerged, rulers used a system of accounting based on intricately knotted strings (quipu).

Defending large concentrations of wealth and maintaining order within and between cities and city-states (autonomous states consisting of a city and surrounding



territory) required the creation of armies. In Sumer and elsewhere invading armies possibly established the first states, and certainly all early states engaged enthusiastically in warfare. The rulers of the earliest states also engaged in symbolic activities that were equally vital to the maintenance of their power. They organized extravagant displays of wealth, often involving human sacrifices, and built palaces, temples, and monuments to the dead, often in the form of pyramids or ziggurats (temple towers consisting of a lofty pyramidal structure built in successive stages with outside staircases and a shrine at the top). These elaborate structures were designed to raise the prestige of local rulers and of the cities they ruled and the gods they worshiped.

#### IMPERIAL STATES

Through time the scale of state systems expanded as city-states traded with and sometimes absorbed other city-states. Eventually imperial systems emerged in which a single ruler controlled a large region of many cities and towns. Sargon of Akkad (reigned c. 2334–2279 BCE) may have established the first imperial state, in Mesopotamia, north of Sumer. By the middle of the second millennium BCE the Shang dynasty (approximately 1766–1045 BCE) had created an imperial state in northern China. Through time such states became more common. As states expanded, they taxed and administered larger areas, either directly or indirectly through local rulers. Improvements

This drawing shows four progressively more intricate European bronze implements:
(1) a hand axe with wooden handle;
(2) decorated hair pin; (3) razor knife blade; and (4) curved knife blade.

in transportation and communications, such as the appearance of wheeled vehicles in Afro-Eurasia during the second millennium BCE, extended the reach of states, their officials, and their armies.

However, their influence reached much further than their power, as traders bridged the gaps between states, creating large networks of commercial and cultural exchange. Indeed, some experts have claimed that as early as 2000 BCE exchanges along the Silk Roads connecting China and the Mediterranean had already created a single, Eurasiawide system of exchanges.

As impressive as these large and powerful communities were, we should remember the limits of their power and influence. Few agrarian states took much interest in the lives of their citizens as long as they paid taxes. Maintaining law and order outside of the major cities was usually left to local power brokers of various kinds. Huge regions also lay beyond the direct control of imperial rulers. The scholar Rein Taagepera has estimated that early during the first millennium BCE states still controlled no more than about 2 percent of the area controlled by states today. Beyond this tiny area, which probably included most of the world's population, smaller communities of foragers, independent farmers, and pastoralists existed.

Although agrarian civilizations usually regarded these outside communities as barbarians, they could play a crucial role in providing sources of innovation and in linking agrarian civilizations. For example, steppe pastoralists in Eurasia transported religious ideas, metallurgical traditions, and even goods between China, India, and the Mediterranean world, and they may also have pioneered some of the military and transportation technologies of agrarian civilizations, such as the wheeled chariot. The most innovative naval technologies of this period were found in the western Pacific, where peoples of the Lapita culture, using huge double-hulled canoes, settled a vast area from New Guinea to Fiji and Tonga between 3000 and 1000 BCE.

Long-term growth in the number, size, and power of cities and states reflected not only innovations in statecraft and warfare, but also the sustained demographic



buoyancy of the entire agrarian era. Our figures are too vague to allow much precision, but clearly, at least in the long trend, populations grew faster in areas of agriculture than elsewhere. However, they probably did not grow much faster than during the early agrarian era. Particularly in the cities, with their appalling sanitary conditions, bad air, and filthy water, death rates were extraordinarily high. Although cities offered more opportunities, they also killed people far more effectively than the villages. Population growth was also slowed by periodic demographic collapses. The spread of diseases into regions whose populations lacked immunities may have caused some of these collapses; overexploitation of the land, which could undermine the productive basis of entire civilizations, may have caused others. In southern Mesopotamia toward the end of the second millennia, populations fell sharply, probably as a result of overirrigation, which created soils too salty to be farmed productively. Archaeologists can trace the progress of salinization late during the second millennium through the increasing use of barley, a more salt-tolerant grain than wheat.

# Agriculture, Cities, and Empires: 500 BCE-1000 CE

Most of the long trends that began after 3000 BCE continued during the period from 500 BCE to 1000 CE. Global populations rose (although they did so slowly during the middle of this period), the power, size, and number of states increased, and so did the extent of exchange networks. As agriculture spread, cities and states appeared in once-peripheral regions in northwestern Europe, sub-Saharan Africa, southern India, and southern China. Increasingly, agrarian civilizations encroached on regions inhabited by foragers, independent peasants, and pastoralists. Similar processes occurred in the Americas but with a time lag of approximately two thousand years.

#### Afro-Eurasia

The Achaemenid empire, created in Persia (modern Iran) during the sixth century BCE, marked a significant enhancement in state power because the empire controlled

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Assyrian Empire p. 200 (v1)

Buddhism p. 267 (v1)

Byzantine Empire p. 278 (v1)

Catholicism, Roman p. 310 (v1)

China p. 332 (v1)

Confucianism p. 426 (v1)

Greece, Ancient p. 858 (v3)

Hinduism p. 902 (v3)

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Judaism p. 1058 (v3)

Manichaeism p. 1179 (v3)

Mesoamerica p. 1230 (v3)

Mississippian Culture p. 1283 (v3)

Persian Empire p. 1462 (v4)

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Steppe Confederations p. 1782 (v4)

Trading Patterns, China Seas p. 1855 (v5)

Trading Patterns, Indian Ocean p. 1864 (v5)

Trading Patterns, Mediterranean p. 1870 (v5)

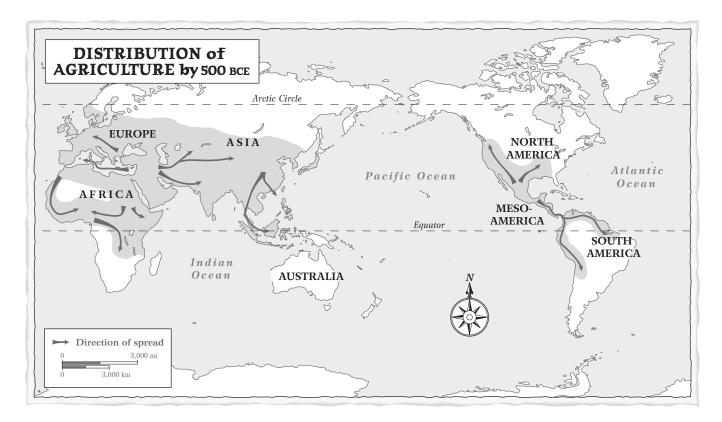
Trading Patterns, Pacific p. 1879 (v5)

Trading Patterns, Trans-Saharan p. 1883 (v5)

Turkic Empire p. 1905 (v5)

Zoroastrianism p. 2120 (v5)

a region five times as large as the greatest of its predecessors. During the next fifteen hundred years empires on this scale became the norm. They included the Han dynasty in China (206 BCE–220 CE), the Roman empire in the Mediterranean (27 BCE–476 CE), and the Mauryan empire (c. 324–c. 200 BCE) in India. The Muslim Abbasid empire, which ruled much of Persia and Mesopotamia from 749/750 to 1258, controlled a slightly larger area than its Achaemenid predecessors. Contacts also flourished between imperial states. During the sixth century BCE Cyrus I, the founder of the Achaemenid empire, invaded parts of modern central Asia. When the Chinese emperor, Han Wudi, invaded the same region three centuries later, the separate agrarian civilizations of the Mediterranean world and eastern Asia came into closer



contact than ever before, binding the whole of Eurasia into the largest system of exchange on Earth.

The increased reach of political, commercial, and intellectual exchange networks may explain another important development during this era: the emergence of religious traditions that also extended over huge areas—the first world religions. Whereas earlier religious traditions usually claimed the allegiance of particular communities or regions, world religions claimed to express universal truths and to represent universal gods—reflections, perhaps, of the increasing scale of imperial states.

The first world religion was probably Zoroastrianism, a religion whose founder may have come from central Asia during the sixth century BCE, at about the time when Cyrus I founded the Achaemenid empire. Buddhism was founded soon after in northern India during a period of rapid urbanization and state expansion. Its great period of expansion came early during the first millennium CE, when it began to spread in central Asia, China, and southeastern Asia. The influence of Christianity expanded within the Roman empire until, during the fourth century CE, it became the official religion of the state. Both Buddhism and Christianity spread into central Asia and eventually reached China, although of the two only Buddhism made a significant impact on Chinese civilization.

Even more successful was Islam, founded in southwestern Asia during the seventh century. Islam spread into north Africa, central Asia, India, and southeastern Asia, carried first by armies of conquest and later by the Muslim missionaries and holy men known as "sufis."

The same forces that gave rise to the first world religions may also have spurred some of the first attempts at universal generalizations about reality in embryonic forms of philosophy and science. Although normally associated with the philosophical and scientific traditions of classical Greece, such ideas can also be found within the astronomical and mathematical traditions of Mesopotamia and the philosophical traditions of northern India and China.

#### THE AMERICAS

In the Americas, too, political systems expanded in size, in military power, and in cultural and commercial reach. During the first millennium CE complex systems of city-states and early empires emerged in Mesoamerica. At its height the great city of Teotihuacan in Mexico had a population of more than 100,000 people and controlled trade networks reaching across much of Mesoamerica. However, we cannot be certain that it had direct control of any other cities or states. Farther south,

# A sixteenth-century Native American agricultural village as depicted by early English settlers in Virginia.

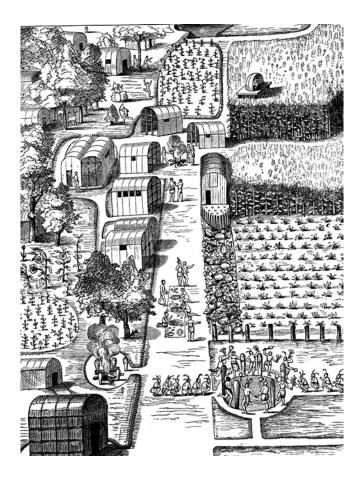
Mayan civilization consisted of a large number of regional states, some of which may have established at least temporary control over their neighbors. Both these powerful systems collapsed, however, during the second half of the first millennium CE. As in southern Mesopotamia early during the second millennium BCE, the collapse may have been caused by overexploitation of the land.

However, just as the political traditions of Sumer were eventually taken up in Babylon and Assyria, so, too, in Mesoamerica the political traditions of Teotihuacan and the Maya provided the cultural foundations for even more powerful states during the next period of the agrarian era. In the Andes, too, cities and states began to appear; the first may have been the Moche state of northern Peru, which flourished for almost eight hundred years during the first millennium CE. Like Teotihuacan, the Moche kingdom influenced a large area, although we cannot be certain how much direct political power it had over other cities and states. During the later half of the first millennium statelike powers also emerged farther south in the lands near Lake Titicaca in South America.

#### Expansion in Other Areas

Populations also grew beyond the zone of agrarian civilization, generating new forms of hierarchy. In the thinly populated steppe zones of Eurasia, pastoral nomads began to form large, mobile confederations that raided and taxed neighboring agricultural zones. In Mongolia in central Asia the Xiongnu people created spectacular empires during the second century BCE, as did the founders of the first Turkic empire during the sixth century CE. At its height the first Turkic empire reached from Mongolia to the Black Sea. In the Pacific zone migrants from the islands near Fiji began to settle the islands of Polynesia, scattered through the central and eastern Pacific. Hawaii and remote Easter Island may have been settled by 600 CE, but New Zealand seems to have been the last part of Polynesia to be settled, some time after 1000. Polynesia was settled by farming peoples, and in some regions, including Tonga and Hawaii, population growth created the preconditions for significant power hierarchies.

Finally, significant changes occurred even in regions



where agriculture had still made few inroads. In North America the slow northward spread of maize cultivation led to the establishment of numerous agricultural or semiagricultural communities, such as those known as the "Anasazi" (on the Colorado Plateau at the intersection of present-day Arizona, New Mexico, Colorado, and Utah). In the eastern parts of North America, too, farming communities emerged in regions such as the Ohio River valley, where they cultivated local plants such as sunflowers. Even in Australia foraging communities intensified production and settled in denser communities, particularly along the coasts.

# Agricultural Societies on the Eve of the Modern Revolution: 1000–1750

During the last period of the agrarian era, from 1000 to 1750, earlier trends continued, but fundamental changes also prefigured the modern era.

Agriculture spread into previously marginal regions such as North America, southern Africa, and western China. Often migrant farmers settled new lands with the The perfect knowledge of history is extremely necessary; because, as it informs us of what was done by other people, in former ages, it instructs us what to do in the like cases. Besides, as it is the common subject of conversation, it is a shame to be ignorant of it. • LORD CHESTERFIELD (1694-1773)

active support of metropolitan merchants or governments. World populations continued to grow, despite sharp declines in much of Eurasia after the Black Death (bubonic plague) of the fourteenth century and in the Americas during the sixteenth century after the arrival of Afro-Eurasian diseases such as smallpox. The sixteenthcentury economic and demographic collapse in the Americas was offset in the long run by the arrival of immigrants, livestock, and new crops from Eurasia and the subsequent expansion of land under cultivation. In agriculture, weaponry, transportation (particularly seaborne transportation), and industry, a steady trickle of innovations sustained growth by gently raising average productivity and enhancing state power. The economist Angus Maddison has estimated that global gross domestic product (GDP, the total production of goods and services)

For more on these topics, please see the following articles:

Aztec Empire p. 221 (v1)

Biological Exchanges p. 249 (v1)

China p. 332 (v1)

Columbian Exchange p. 386 (v1)

Crusades, The p. 453 (v1)

Diseases—Overview p. 543 (v2)

Diseases, Animal p. 551 (v2)

Economic Growth, Extensive and Intensive p. 610 (v2)

Expansion, European p. 700 (v2)

Exploration, Chinese p. 712 (v2)

Firearms p. 750 (v2)

Inca Empire p. 958 (v3)

Islamic World p. 1036 (v3)

Labor Systems, Coercive p. 1094 (v3)

Maritime History p. 1188 (v3)

Mongol Empire p. 1295 (v3)

Navigation p. 1363 (v4)

Ottoman Empire p. 1401 (v4)

Population p. 1484 (v4)

Slave Trades p. 1717 (v4)

Technology—Overview p. 1806 (v5)

Trading Patterns, Mesoamerican p. 1874 (v5)

Viking Society p. 1936 (v5)

War and Peace—Overview p. 1943 (v5)

rose from approximately \$120 billion (in 1990 international dollars) in 1000 to almost \$700 billion in 1820.

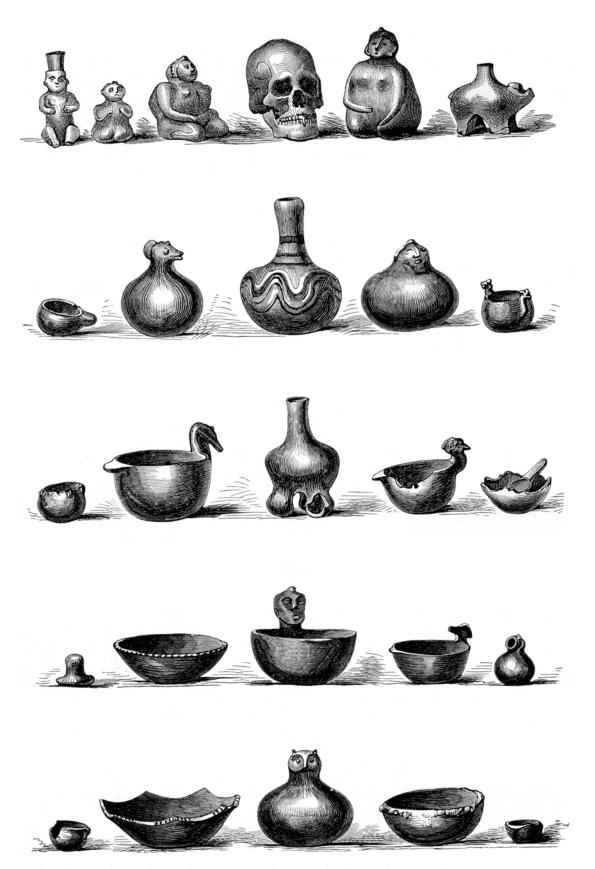
#### CREATION OF GLOBAL NETWORKS

The most important change during this era was the unification of the major world zones during the sixteenth century. This unification created the first global networks of exchanges. The linking of regions that previously had no contact for many thousands of years generated a commercial and intellectual synergy that was to play a critical role in the emergence of the modern world.

In Afro-Eurasia the most striking feature of the early part of the last millennium was the increasing scale and intensity of international contacts. Viking raiders and traders traveled in central Asia, in the Mediterranean, along the coast of western Europe, even in distant Iceland and Greenland, and in 1000 they even created a shortlived colony in Newfoundland, Canada. The astonishing conquests of the Mongols early during the thirteenth century created a huge zone of relative peace extending from Manchuria to the Mediterranean, and, with Mongol protection, the trade routes of the Silk Roads flourished during the late thirteenth and early fourteenth centuries. Sea routes were equally active, and exchanges of goods by sea from the Mediterranean through southern and southeastern Asia to China became routine. Briefly during the early fifteenth century Chinese fleets made a series of expeditions to the West, some of which took them to Arabia in southwestern Asia and east Africa.

Control of the Eurasian heartlands of Persia and central Asia—first by the Muslim empire of the Abbasids late during the first millennium and then by the Mongols—encouraged the exchange of technologies, goods, and religious and cultural traditions throughout Eurasia. In the Americas the first imperial states appeared. The most successful and best known were those of the Aztecs, based at Tenochtitlan in Mexico, and of the Incas, based at Cuzco in Peru. These were the first American polities (political organizations) to exert direct political and military control over very large areas.

However, the small, highly commercialized states of western Europe, not imperial states, eventually linked the



A display of burial goods recovered from the burial mounds of agrarian era farmers in southeastern Missouri.



separate world zones of the agrarian era. The first significant states had emerged in western Europe during the first millennium CE as the region had been absorbed within the commercial and cultural hinterland of the Roman empire. Early during the ninth century the first holy Roman emperor, Charlemagne, tried to create a revived Roman empire from a base on the border between modern France and Germany. His failure helps explain why Europe emerged as a region of competing medium-sized states. Because such states had a more limited tax base than great imperial powers such as the Abbasid empire or China's Tang (618–907 CE) empire, they had to seek alternative sources of revenue, including revenues from trade, to survive the vicious warfare that became the norm in this region.

Not surprisingly, a tradition of predatory, militaristic trading states emerged, epitomized by the Vikings. Blocked in the eastern Mediterranean, European powers sought new ways of cutting into the great markets of southern and eastern Asia, and this search, backed aggressively by European governments, eventually encouraged European merchants, led by the Portuguese, to circle the globe. This search also encouraged the technological innovations needed to create ships capable of navigating the world. The wealth that European states secured as they cut in on the profits of the great trading systems of southeastern Asia and the even more spectacular gains they made by conquering the great civilizations of Central and South America repaid the initial investment of money and resources many times over.

#### Impact of Global Networks

The Americas and Europe were the first regions to be transformed by the new global system of exchanges. In eastern Eurasia the incursions of Europeans had a limited impact for a century or more. Portuguese and Spanish ships, followed a century later by Dutch and English ships, seized important trading ports and began to cut in on local trade, particularly in spices. However, they had little impact on the major polities of the region. In the Americas European weaponry, the breakdown of traditional political and economic structures, and, perhaps

most important of all, the impact of Eurasian pathogens such as smallpox crippled the Aztec and Inca empires and secured for the Spanish government an astonishing windfall of trade goods and precious metals that funded the first empire to straddle the Atlantic Ocean. European diseases were particularly destructive in the Americas because most natives lacked immunity to the diseases that had spread through Afro-Eurasia through many centuries. Estimates of the population decline during the sixteenth century in the most densely populated regions of the Americas range from 50 percent to almost 90 percent.

Control of global trade networks brought European states great commercial wealth, but it also brought an influx of new information about geography, the natural world, and the customs of other societies. The torrent of new information available to European intellectuals may have played a critical role in undermining traditional certainties and creating the skeptical, experimental cast of mind that we associate with the so-called scientific revolution.

However, no region on Earth was entirely unaffected by the creation of the first global system of exchanges. The exchange of goods between the Americas and Afro-Eurasia stimulated population growth throughout Afro-Eurasia as crops such as maize, cassava, and potatoes spread to China, Europe, and Africa, where they supplemented existing crops or allowed people to cultivate lands unsuitable for other crops. The abundant silver of the Americas gave a huge boost to international trade, particularly after Chinese governments began to demand the payment of taxes in silver from the 1570s, pulling more and more silver toward what was still the largest single economy in the world. New drugs such as tobacco and coca became available for the first time to Afro-Eurasian consumers, whereas older drugs, such as coffee, circulated more widely, stimulating consumer demand in cities from Istanbul to Mexico City.

Perhaps most important of all, the position of Europe within global networks of exchange was transformed. As long as the world was divided into separate zones, Europe could be little more than a marginal borderland of Afro-Eurasia. The hub of Eurasian networks of exchange lay in the Islamic heartland of Persia and Meso-

History, n. An account, mostly false, of events, mostly unimportant, which are brought about by rulers, mostly knaves, and soldiers, mostly fools. • Ambrose Bierce (1842–1914)

potamia. In the integrated world system that emerged during the sixteenth century, European states found themselves at the hub of the largest and most vigorous exchange networks that had ever existed. The huge flows of wealth and information that coursed through these networks would transform the role and significance of Europe and the Atlantic region in world history, and eventually they would transform the entire world.

### Agrarian Era in World History

The introduction of agricultural technologies raised productivity, increased populations, and stimulated innovation. These developments explain why change was so much more rapid during the agrarian era than during the era of foragers. Larger, denser communities created new problems that were solved by forming the large, hierarchical structures that we call "states," "empires," and "civilizations." Within these structures the very nature of human communities was transformed as families and households found themselves incorporated in, and disciplined by states, religions, and market forces. The exchange of technologies and goods between larger regions and larger populations stimulated many small improvements in agrarian techniques, communications technologies, and the technologies of information storage and warfare. However, although innovation was much faster than it had been during the era of foragers, it was rarely fast enough to keep pace with population growth, which is why, on the smaller scales that meant most to rulers and their subjects, the characteristic rhythm of change during the agrarian era was cyclical.

The modern world built on the slow accumulation of people, resources, and information that took place during the agrarian era, but it was marked out from this era by another sharp acceleration in rates of innovation that would lead to one more fundamental transformation in human lifeways.

### **Further Reading**

Barber, E. W. (1994). Women's work: The first 20,000 years: Women, cloth and society in early times. New York: W. W. Norton.

- Bentley, J. H., & Ziegler, H. F. (1999). *Traditions and encounters: A global perspective on the past*. Boston: McGraw-Hill.
- Bulliet, R., Crossley, P. K., Headrick, D. R., Hirsch, S. W., Johnson, L. L., & Northrup, D. (2001). The Earth and its peoples: A global history (2nd ed.). Boston: Houghton Mifflin.
- Burenhult, G. (Ed.). (1993–1995). The illustrated history of mankind (Vols. 3–4). St. Lucia, Australia: University of Queensland Press.
- Christian, D. (2004). *Maps of time: An introduction to big history*. Berkeley and Los Angeles: University of California Press.
- Cohen, M. (1977). The food crisis in prehistory. New Haven, CT: Yale University Press.
- Cohen, M. (1989). Health and the rise of civilization. New Haven, CT: Yale University Press.
- Diamond, J. (1998). Guns, germs, and steel: The fates of human societies. London: Vintage.
- Ehret, C. (2002). The civilizations of Africa: A history to 1800. Charlottesville: University Press of Virginia.
- Fagan, B. M. (2001). People of the Earth: An introduction to world prehistory (10th ed.). Upper Saddle River, NJ: Prentice Hall.
- Heiser, C. B. (1990). Seed to civilization: The story of food. Cambridge, MA: Harvard University Press.
- Ladurie, E. L. (1974). *The peasants of Languedoc* (J. Day, Trans.). Urbana: University of Illinois Press.
- Livi-Bacci, M. (1992). A concise history of world population. Oxford, UK: Blackwell.
- Maddison, A. (2001). The world economy: A millenial perspective. Paris: OECD.
- McNeill, J. R., & McNeill, W. H. (2003). The human web: A bird's-eye view of world history. New York: W. W. Norton.
- McNeill, W. H. (1977). Plagues and people. Oxford, UK: Blackwell.
- McNeill, W. H. (1982). The pursuit of power: Technology, armed force and society since A.D. 1000. Oxford, UK: Blackwell.
- Mears, J. (2001). Agricultural origins in global perspective. In M. Adas (Ed.), Agricultural and pastoral societies in ancient and classical history (pp. 36–70). Philadelphia: Temple University Press.
- Piperno, D. R., & Pearsall, D. M. (1998). The origins of agriculture in the lowland neotropics. London: Academic Press.
- Richerson, P. T., & Boyd, R. (2004). Not by genes alone: How culture transformed human evolution. Chicago: University of Chicago Press.
- Sherratt, A. (1981). Plough and pastoralism: Aspects of the secondary products revolution. In I. Hodder, G. Isaac, & N. Hammond (Eds.), Patterns of the past (pp. 261–305). Cambridge, UK: Cambridge University Press.
- Sherratt, A. (1997). The secondary exploitation of animals in the Old World. *World Archaeology*, 15(1), 90–104.
- Smith, B. D. (1995). The emergence of agriculture. New York: Scientific American Library.
- Taagepera, R. (1978). Size and duration of empires: Growth-decline curves, 3000 to 600 BC. Social Science Research, 7, 180–196.
- Taagepera, R. (1978). Size and duration of empires: Systematics of size. Social Science Research, 7, 108–127.
- Taagepera, R. (1979). Size and duration of empires: Growth-decline curves, 600 BC to 600 AD. Social Science Research, 3, 115–138.
- Taagepera, R. (1997). Expansion and contraction patterns of large polities: Context for Russia. *International Studies Quarterly*, 41(3), 475–504
- Wolf, E. R. (1982). Europe and the people without history. Berkeley and Los Angeles: University of California Press.

# Our World: The Modern Era



The modern era is the briefest and most turbulent of the three main eras of human history. Whereas the era of foragers lasted more than 200,000 years and the agrarian era about 10,000 years, the modern era has lasted just 250 years. Yet, during this brief era change has been more rapid and more fundamental than ever before; indeed, populations have grown so fast that 20 percent of all humans may have lived during these two and a half centuries. The modern era is also the most interconnected of the three eras. Whereas new ideas and technologies once took thousands of years to circle the globe, today people from different continents can converse as easily as if they lived in a single global village. History has become world history in the most literal sense.

For our purposes the modern era is assumed to begin about 1750. Yet, its roots lay deep in the agrarian era, and we could make a good case for a starting date of 1500

or even earlier. Determining the end date of the modern era is even trickier. Some scholars have argued that it ended during the twentieth century and that we now live in a postmodern era. Yet, many features of the modern era persist today and will persist for some time into the future; thus, it makes more sense to see our contemporary period as part of the modern era. This fact means that we do not know when the modern era will end, nor can we see its overall shape as clearly as we might wish.

The fact that we cannot see the modern era as a whole makes it difficult to specify its main features, and justifies using the deliberately vague label "modern." At present the diagnostic feature of the modern era seems to be a sharp increase in rates of innovation. New technologies enhanced human control over natural resources and stimulated rapid population growth. In their turn, technological and demographic changes transformed

### 250,000 Years of Human History

(NOT DRAWN TO SCALE)



lifeways, cultural and religious traditions, patterns of health and aging, and social and political relationships.

For world historians the modern era poses distinctive challenges. We are too close to see it clearly and objectively; we have so much information that we have difficulty distinguishing trends from details; and change has occurred faster than ever before and embraced all parts of the world. What follows is one attempt to construct a coherent overview, based on generalizations that have achieved broad acceptance among world historians.

# Major Features and Trends of the Modern Era

The modern era is the first to have generated a large body of statistical evidence; thus, it is also the first in which we can quantify many of the larger changes.

### Increases in Population and Productivity

Human populations have increased faster than ever before during the modern era, although growth rates slowed during the late twentieth century. Between 1750 and 2000 the number of men and women in the world rose from approximately 770 million to almost 6 billion, close to an eightfold increase in just 250 years. This increase is the equivalent of a growth rate

# Key Features and Trends of the Modern Era

Rapid Population Growth

**Technological Innovation** 

Large Increase in Productivity

Harnessing of Fossil and other Forms of Energy

Large Communities

Bureaucracy

Nationalism

Longer Life Expectancy

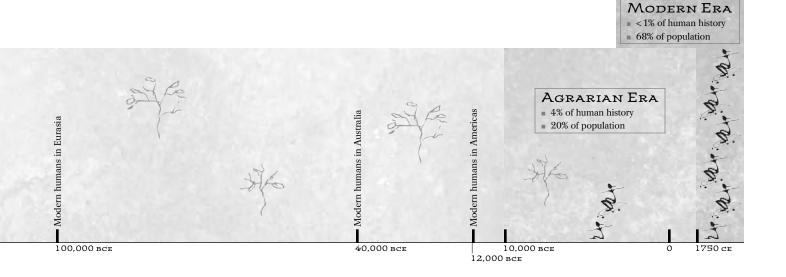
Broader Role for Women

Commercialization

Global Networks

Destruction of Foraging and Agrarian Lifeways

of about 0.8 percent per annum and represents a doubling time of about eighty-five years. (Compare this with estimated doubling times of fourteen hundred years during the agrarian era and eight thousand to nine thousand years during the era of foragers.) An eightfold increase in human numbers was possible only because productivity rose even faster. The estimates of the economist Angus Maddison suggest that global gross domestic product rose more than ninety-fold during three hundred years, whereas production per person rose ninefold.



All history is necessarily written from the standpoint of the present, and is, in an inescapable sense, the history not only of the present but of that which is contemporaneously judged to be important in the present. • John Dewey (1859–1952)

For more on these topics, please see the following articles:

Colonialism p. 381 (v2)

Democracy, Constitutional p. 508 (v2)

Diasporas p. 521 (v2)

Empire p. 640 (v2)

Global Imperialism and Gender p. 838 (v2)

Global Migration in Modern Times p. 844 (v3)

Indigenous Peoples Movements p. 970 (v3)

Industrial Technologies p. 981 (v3)

Information Societies p. 985 (v3)

Modernity p. 1287 (v3)

Population p. 1484 (v4)

Technology—Overview p. 1806 (v5)

Urbanization p. 1925 (v5)

Western Civilization p. 2041 (v5)

Women's and Gender History p. 2046 (v5)

World Cities in History—Overview p. 2066 (v5)

World System Theory p. 2075 (v5)

These astonishing increases in productivity lie behind all the most significant changes of the modern era. Productivity rose in part because new technologies were introduced. In agriculture, for example, food production kept pace with population growth because of improved crop rotations, increased use of irrigation, widespread application of artificial fertilizers and pesticides, and the use of genetically modified crops. However, productivity also rose because humans learned to exploit new sources of energy. During the agrarian era each human controlled, on average, 12,000 kilocalories a day (about four times the energy needed to sustain a human body), and the most powerful prime movers available were domestic animals or wind-driven ships. During the modern era humans have learned to harvest the huge reserves of energy stored in fossil fuels such as coal, oil, and natural gas and even to exploit the power lurking within atomic nuclei. Today each person controls, on average, 230,000 kilocalories a day—twenty times as much as during the agrarian era. A world of planes, rockets, and nuclear power has replaced a world of horses, oxen, and wood fires.

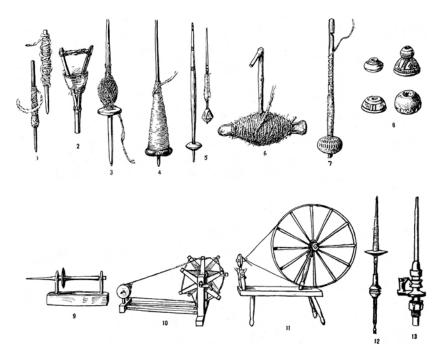
#### CITY SPRAWL

As populations have increased, so has the average size of human communities. In 1500 about fifty cities had more than 100,000 inhabitants, and none had more than a million. By 2000 several thousand cities had more than 100,000 inhabitants, about 411 had more than a million, and 41 had more than 5 million. During the agrarian era most people lived and worked in villages; by the end of the twentieth century almost 50 percent of the world's population lived in communities of at least five thousand people. The rapid decline of villages marked a fundamental transformation in the lives of most people on Earth. As during the agrarian era, the increasing size of communities transformed lifeways, beginning with patterns of employment: Whereas most people during the agrarian world were small farmers, today most people support themselves by wage work in a huge variety of occupations.

Innovations in transportation and communications have transformed relations between communities and regions. Before the nineteenth century no one traveled faster than the pace of a horse (or a fast sailing ship), and the fastest way to transmit written messages was by statesponsored courier systems that used relays of horses. Today messages can cross the world instantaneously, and even perishable goods can be transported from one end of the world to another in just a few hours or days.

## Increasingly Complex and Powerful Governments

As populations have grown and people's lives have become more intertwined, more complex forms of regulation have become necessary, which is why the business of government has been revolutionized. Most premodern governments were content to manage war and taxes, leaving their subjects to get on with their livelihoods more or less unhindered, but the managerial tasks facing modern states are much more complex, and they have to spend more effort in mobilizing and regulating the lives of those they rule. The huge bureaucracies of modern states are one of the most important by-products of the modern



This plate shows a variety of tools of increasing technological complexity used by humans at different times and places to twist fiber. Spindles 1 and 2 are the simplest forms (other than human fingers) with fiber wound around a wooden peg. Spindles 3 through 7 are more complex, with a whorl added to the spindle. Spindle 9 marks the transition to modern spindles shown in 10 and 11 with flywheels.

revolution. So, too, are the structures of democracy, which allow governments to align their policies more closely with the needs and capabilities of the large and varied populations they rule. Nationalism—the close emotional and intellectual identification of citizens with their governments—is another by-product of these new relationships between governments and those they rule.

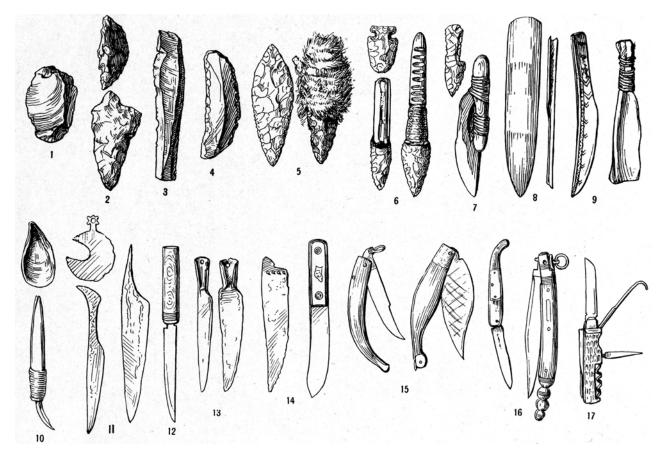
The presence of democracy and nationalism may suggest that modern governments are more reluctant to impose their will by force, but, in fact, they have much more administrative and coercive power than did rulers of the agrarian era. No government of the agrarian era tried to track the births, deaths, and incomes of all the people it ruled or to impose compulsory schooling; yet, many modern governments handle these colossal tasks routinely. Modern states can also inflict violence more effectively and on a larger scale than even the greatest empires of the agrarian era. Whereas an eighteenthcentury cannon could destroy a house or kill a closely packed group of soldiers, modern nuclear weapons can destroy entire cities and millions of people, and the concerted launch of many nuclear weapons could end human history within just a few hours.

A subtler change in the nature of power is the increased dependence of modern states on commercial success rather than raw coercion. Their power depends so much on the economic productivity of the societies they

rule that modern governments have to be effective economic managers. The creation of more democratic systems of government, the declining importance of slavery, the ending of European imperial power during the twentieth century, the collapse of the Soviet command economy in 1991, and the ending of apartheid (racial segregation) in South Africa in 1990 and 1991 all reflected a growing awareness that successful economic management is more effective than crudely coercive forms of rule.

## Growing Gap between Rich and Poor

Although wealth has accumulated faster than ever before, the gap between rich and poor has widened, both within and between countries. The estimates of Angus Maddison suggest that in 1820 the GDP per person of the United States was about three times that of all African states; by 1998 the ratio had increased to almost twenty times that of all African states. Yet, some of the benefits of modern technologies have been shared more generally. Improvements in the production and supply of food and in sanitation, as well as improved understanding of diseases and the introduction of vaccinations (during the nineteenth century) and antibiotics (during the twentieth century) help explain why, for the first time in human history, so few people die in infancy or childhood that average life expectancies have more than doubled, rising from about



This interesting plate of knives shows the development of the hand knife used throughout human history for working wood. Knives 1 through 7 are all of stone, each one more carefully finished than earlier ones. Knives 8 through 10 show specialized use of bamboo, ivory, and clam shell. The remainder of the knives all have metal blades and show increasing sophistication with handles, hinges, springs, and several blades in one knife.

twenty-six years in 1820 to about sixty-six years at the end of the twentieth century. These gains have not been shared equally, but all parts of the world have felt their impact.

### Improved Opportunities for Women

Relations between men and women have been renegotiated in many parts of the world. New energy sources have reduced the importance of physical strength in employment, new forms of contraception have given women and men more control over reproduction, and new technologies, such as bottle feeding, have allowed parents to more easily share the task of caring for infants. Reduced infant mortality and new forms of socialized old-age support have reduced the pressure to have many children as

a form of old-age insurance. Finally, urbanization and commercialization have created more varied forms of employment for women as well as men. Women are less closely tied to their traditional role as child rearers, particularly in the most industrialized regions of the world. Nevertheless, gender inequality still survives even in those societies most deeply transformed by the modern revolution. Even in the United States and western Europe the average wages of women lag behind those of men.

#### DESTRUCTION OF

#### Premodern Lifeways

Finally, the modern revolution has destroyed premodern lifeways. Until the twentieth century independent communities of foragers survived in many parts of the world, but by the end of the twentieth century no foragers lived

### UN Commemoration of the Abolition of Slave Trade

While acknowledging that slavery has existed since antiquity and continues to exist in modern form, the United Nations declared 2004 as International Year to Commemorate the Struggle against Slavery and its Abolition. Below are excerpts from a message delivered by Koichiro Matsuura, director-general of UNESCO (the United Nations Educational, Scientific and Cultural Organization), on 23 August 2004.

The celebration of 23 August, International Day for the Remembrance of the Slave Trade and its Abolition, has particular symbolic value this year, 2004, which was proclaimed International Year to Commemorate the Struggle against Slavery and its Abolition by the United Nations General Assembly. The purpose of the Year is to remind humanity of the fight of the slaves for freedom, justice and dignity, a fight that led to the independence of Haiti and the proclamation in 1804 of the first Black republic.

The date of 23 August refers to the insurrection that started in the night of 22 to 23 August 1791 on the island of Saint-Domingue (today divided between Haiti and the Dominican Republic), led by Toussaint Louverture, the first Black major general. The insurrection was to lead to the first decisive victory for slaves against their oppressors in the history of humanity.

On 23 August 2004, we are thus commemorating two key events: the revolt of 1791 and its culmination in 1804.

The Day gives us the opportunity to reflect together

on the historical causes, processes and consequences of the unprecedented tragedy that was slavery and the slave trade, a tragedy that was concealed for many years and is yet to be fully recognized.

It also provides us with an opportunity to understand more clearly the interactions that the slave trade generated throughout the world between the different peoples involved. It not only disrupted the lives of millions of human beings uprooted from their land and deported in the most inhuman conditions, but it brought about cultural exchanges which deeply and lastingly influenced morals and beliefs, social relations and knowledge on several continents.

[...]

Beyond these retrospective dimensions, the Day aims to sensitize and alert public opinion to the new trade in human beings, for slavery, although abolished and penalized in international instruments, is still practised in new forms, that today affect millions of men, women and children across the world.

I therefore call on the whole population in all Member States, in particular intellectuals, political, religious and community leaders, educators, artists and young people, to mark the Day with acts of meditation, awareness-raising and exchange about the tragedy of slavery that we cannot forget, and that we can never again tolerate.

Source: Message of the director-general of UNESCO. (August 23, 2004). Retrieved September 8, 2004, from http://portal.unesco.org/culture/en/ev.php-URL\_ID=22385 &URL\_DO=DO\_TOPIC&URL\_SECTION=201.html

outside a modern state, and their lifeways had been transformed as they had been forcibly brought into the modern world. Peasant farming—the lifeway of most women and men throughout the agrarian era—declined as peasant households were unable to compete with large, industrial agribusinesses or the commercial farmers of more industrialized countries. By the end of the twentieth century peasant farming had vanished in much of the world. Even where it survived—in much of east Asia and Africa, for example, as well as in much of Latin America—it was in decline. These changes marked the

end of traditions, cultures, and lifeways that had shaped the lives of most humans throughout the earlier eras of human history.

# Explaining the Modern Revolution

The key to these momentous changes was a sudden rise in the productivity of human labor caused by increasing rates of innovation. So, to explain modernity we must explain why rates of innovation have risen so fast during the modern era. As yet no general agreement exists on the



causes of the modern revolution or, indeed, on the general causes of innovation in human history. However, widespread agreement exists on some of the more important contributing factors.

# Accumulated Changes of the Agrarian Era

First, the modern revolution clearly built on the accumulated changes of the agrarian era. Slow growth during several millennia had led to incremental technological improvements in agriculture and water management, in warfare, in mining, in metalwork, and in transportation and communications. Improvements in transportation and communications—such as the development of more maneuverable ships or the ability to print with movable type—were particularly important because they increased the scale of exchanges and ensured that new technologies, goods, and ideas circulated more freely. Methods of organizing large numbers of humans for warfare or tax collection also improved during the agrarian era. In ways that are not yet entirely clear, these slow technological and organizational changes, together with a steady expansion in the size and scale of global markets, created the springboard for the much faster changes of the modern era. During the final centuries of the agrarian era the pace of change was already increasing. International GDP grew almost sixfold between 1000 and 1820, whereas hardly any growth had occurred at all during the previous millennium.

#### Rise of Commercial Societies

Second, most historians would agree that the modern revolution is connected with the rise of more commercial

### A modern Chinese market in Beijing combines the traditional market with many modern features.

societies. From the Scottish economist Adam Smith onward economists have argued that a close link exists between innovation and commercial activity. Smith argued that large markets allow increased specialization, which encourages more precise and productive labor. Equally important, entrepreneurs buying and selling in competitive markets faced competition of a kind that landlords and governments of the agrarian era could usually avoid. To survive, entrepreneurs had to undercut their rivals by selling and producing goods at lower prices. To do that meant trading and producing with maximum efficiency, which usually meant finding and introducing the most up-to-date technology. As commercial exchanges spread, so did the number of wage workers: people who took their own labor to market. Because they competed with others to find work, wage workers also had to worry about the cheapness and productivity of their labor.

For these reasons the slow commercialization of economies that occurred throughout the agrarian era probably raised productivity by stimulating innovation. As the wealth, influence, and number of entrepreneurs and wage earners increased, the societies in which they lived became more open and receptive to innovation.

#### Development of a Single Global Network

Third, the linking of world zones into a single global network from the sixteenth century provided a sharp stimulus to commercial growth and technological innovation. In just a century or so the scale on which goods and ideas could be exchanged almost doubled, and a huge variety of new goods and ideas entered into global circulation. Maize, sugar, silver, coffee, cotton, tobacco, potatoes, and the productive and commercial expertise that went with these commodities were no longer confined to particular regions but instead were available throughout the world. Even the trade in people was internationalized. Before the sixteenth century the most active slave traders operated in the Islamic world, and most of their slaves came from Slavic or Turkic peoples to their north. From the sixteenth century European slavers began to capture or buy African

Like most of those who study history, he learned from the mistakes of the past how to make new ones. • A. J. P. Taylor (1906–1990)

slaves and to ship them to plantations in the Americas. For better or worse, such global exchanges stimulated commerce throughout the world.

# Western Europe's Emergence as a Global Hub

Although change was rapid, it did not transform all parts of the world at once, and the order in which different regions were transformed had a profound effect on the course of modern history. This fact is the fourth factor contributing to the modern revolution. The societies of western Europe had been at the margins of the great trading systems of the agrarian era, but they were at the center of the global networks of exchange created during the sixteenth century because they controlled the oceangoing fleets that knit the world into a single system. Western Europe was better placed than any other region to profit from the vast flows of goods and ideas within the emerging global system of exchange. The European scientific revolution was, in part, a response to the torrent of new ideas pouring into Europe as a result of its expanded contacts with the rest of the world. Awareness of new ideas, crops, religions, and commodities undermined traditional behaviors, cosmologies, and beliefs and posed sharply the question of how to distinguish between false and true knowledge of the world. The reinvention and spread of printing with movable type ensured that new information would circulate more easily in Europe than elsewhere.

At the same time European states, in an environment of almost continuous warfare, desperately needed new sources of revenue; thus, they were keen to exploit the commercial opportunities created within the global economic system. They did so partly by seizing the resources of the Americas and using American commodities such as silver to buy their way into the markets of southern and eastern Asia, the largest in the world. The increasing scale of commercial and intellectual exchanges within Europe created an environment that was particularly open to innovation because European innovators could draw on the intellectual and commercial resources of the entire world. The primacy of western Europe during the early

stages of the modern revolution allowed it and the North American region to put their distinctive stamp on the modern revolution and to achieve a global hegemony that has so far lasted almost two centuries. Because of Europe's primacy English is the universal language of modern diplomacy and business rather than Persian or Chinese, and suits and ties rather than kaftans are worn in the United Nations.

#### OTHER FACTORS

Fifth, more particular factors must enter into any detailed explanation of the modern revolution. The peculiarly commercialized nature of European states undoubtedly helps explain their receptiveness to innovation, but geographical factors, such as climatic changes, or the presence of large, relatively accessible seams of coal in Britain and northwestern Europe, may also have shaped the timing and geography of the modern revolution.

# Industrial Revolution: 1750–1914

These arguments suggest that the ingredients of the modern revolution were present in all parts of the world, even though its full impact first became apparent in northwestern Europe and the eastern seaboard of what became the United States. In this region technological change accelerated from the late eighteenth century. Familiar markers of change include the introduction and spread of more productive agricultural techniques, more efficient machines for spinning and processing cotton, the improved steam engine of the Scottish inventor James Watt, and the first locomotive. By the early nineteenth century contemporaries saw that something exceptional was happening. In 1837 the French revolutionary Auguste Blanqui (1805–1881) declared that an "industrial revolution" was under way in Britain and that it was as significant as

For more on these topics, please see the following articles:

Dictionaries and Encyclopedias p. 528 (v2)

Energy p. 646 (v2)

Enlightenment, The p. 660 (v2)

Industrial Technologies p. 981 (v3)



the political revolutions that had recently taken place in Europe and the Americas. By this time European levels of productivity had already overtaken those of the ancient superpowers of India and China.

## Three Waves of the Industrial Revolution

The technological innovations of the Industrial Revolution spread in waves. Each wave spawned new productivity-raising technologies and spread industrialization to new regions. In the first wave, during the late eighteenth and early nineteenth centuries, the crucial changes occurred in Britain, although many of the innovations introduced there had been pioneered elsewhere. The most important changes were the introduction of efficient cotton-spinning machines and the Watt steam engine.

This line drawing by artist George Catlin is a depiction of himself painting a portrait during his travels in the American Indian country in the 1830s. It gives the viewer a sense of European views of native peoples.

The steam engine provided for the first time an efficient way of exploiting the energy locked up in fossil fuels; it made available a seemingly endless supply of cheap energy, particularly in regions with ready access to coal. Immediately it lowered the cost of extracting coal by easing the task of pumping water from mine shafts; in combination with new spinning and weaving machines invented during the late eighteenth century, it also revolutionized the textile industry, the second-mostimportant sector (after agriculture) in most agrarian societies.

To exploit these new technologies more efficiently, entrepreneurs began to bring workers together in the large, closely supervised productive enterprises we know as factories.

In a second wave of innovations that occurred during the early and middle decades of the nineteenth century, steam engines were mounted on wheels to create the first locomotives. Railways slashed transportation costs over land, which is why they had a particularly revolutionary impact on the economies of large nations such as the United States and the Russian empire. In their turn, demand for coal, locomotives, rolling stock, and track stimulated coal and metal production and engineering. During the early nineteenth century many of these technologies spread to other parts of Europe and to the United States.

A third wave of innovations occurred during the second half of the nineteenth century. Industrial technologies History is more or less bunk. It's tradition. We don't want tradition. We want to live in the present and the only history that is worth a tinker's damn is the history we make today. • Henry Ford (1863–1947)

spread in North America, in other parts of Europe, and in Russia and Japan. Military humiliation at the hands of Western nations forced the governments of Russia and Japan to realize that they had to encourage industrialization if they were to survive because industrial power clearly enhanced military power. Steel, chemicals, and electricity were the most important new technologies during this wave of the industrial revolution, and new forms of organization brought banks and factories together in large corporate enterprises, the largest of which were in the United States. In Germany and the United States systematic scientific research began to play an important role in technological innovation, as did large corporations, and innovation began to be institutionalized within the structures of modern business and government.

By the end of the nineteenth century Britain was losing its industrial primacy to Germany and the United States: In 1913 the United States accounted for almost 19 percent of the world's GDP, Germany for 9 percent, and the United Kingdom for just more than 8 percent.

#### **ECONOMIC DEVELOPMENTS**

The first three waves of industrialization transformed levels of productivity. Between 1820 and 1913 the GDP of the United Kingdom increased by more than six times; that of Germany by nine times, and that of the United States by forty-one times. During the same period GDP per capita increased by 2.9 times in the United Kingdom, by 3.4 times in the lands that became Germany, and by 4.2 times in the United States. No earlier era of human history had witnessed such astonishing increases in productivity.

These growth rates were not matched in the rest of the world. On the contrary, the increasing economic and military might of the regions that industrialized first undermined the traditional agrarian economies of India,

For more on these topics, please see the following articles: Colonialism p. 381 (v2) Economic Growth, Extensive and Intensive p. 610 (v2) Imperialism p. 952 (v3)

Liberalism p. 1133 (v3)

China, and the Ottoman empire. While the machineproduced textiles of the European and Atlantic powers undercut local products in other regions, their modernized armies conquered much of the world.

During the late nineteenth century interregional disparities in wealth and power increased sharply. Between 1820 and 1913 China's share of world GDP fell from 33 percent to 9 percent and that of India from 16 percent to 8 percent, while the share of the United Kingdom rose from 5 percent to more than 8 percent and that of the United States from almost 2 percent to more than 19 percent. By the end of the nineteenth century India was ruled by Britain; China was dominated commercially and even, to an extent, militarily by a conglomerate of European and Atlantic powers together with Japan; the Americas and Australasia were largely populated by migrants of European origin; much of Latin America was under the financial and commercial domination of Europe; and most of Africa and southeastern Asia had been incorporated within European empires. For the first time in human history political and economic inequalities between countries were becoming as striking as inequalities within countries. Global imperialism and the Third World are creations of the late nineteenth century.

#### DEMOCRATIC REVOLUTION

Economic changes were accompanied by profound social, political, and cultural changes. The peasant populations of agrarian societies were largely self-sufficient, but the urbanized wage-earning populations of industrialized societies, like the entrepreneurial classes that employed them, depended much more on structures of law and order and economic regulation that only states could provide. Governments, in turn, depended more on the cooperation of large sections of society as their tasks became more varied and complex. These changes explain the often violent renegotiation of relations between governments and subjects. The first modern democratic political systems emerged in the United States and western Europe during the turbulent second half of the eighteenth century, which the historian Robert Palmer called the "age of the democratic revolution." More democratic Although the modern era is often thought of as more secular and rational than earlier eras, religion and faith continue to be important for many people. This photo shows a procession of pilgrims walking down the High Street of Little Walsingham, Norfolk, United Kingdom, carrying a statue of the Virgin and Child in 1997.

methods of rule granted political influence to wider sections of the population in exchange for increasing regulation as governments began to recruit into mass armies, to take detailed censuses, and to regulate life in factories, offices, and even households.

#### CULTURAL CHANGES

Cultural life was also transformed. Mass education spread literacy to a majority of the population in much of North America and Europe during the nineteenth century, while the emerging mass media gave citizens plenty to read and informed them of events in their own nation and the world at large. Mass education, combined with new forms of mass entertainment, also began to give citizens a more modern sense of a shared "national" identity. All religious traditions had to face the challenge posed by modern science, and most did so by incorporating some aspects of a new scientific view of reality while rejecting others. The spectacular successes of nineteenth-century science raised the prestige of science and challenged traditional worldviews.

Particularly challenging was the theory of evolution put forward by the English naturalist Charles Darwin (1809–1882), which seemed to imply that life itself might be the product of blind forces. Yet, precisely because it relied so much on rational explanations, the scientific worldview could not offer the spiritual consolation of traditional religions, which is why the challenge of science, far from destroying traditional religions, seems to have stimulated new forms of religious activity, such as evangelical forms of Christianity.

Outside the Atlantic core region the indirect effects of the Industrial Revolution were largely destructive as the growing political, commercial, and military power of Europe and North America threatened traditional political and economic structures and eroded faith in ancient ways of thinking. Rapid population growth, land short-



age, increased taxation, and new opportunities in the towns undermined village life in most of the world. However, as socialists pointed out, conditions in early industrial towns were often worse than those in the villages. Together, the slow erosion of peasant lifeways and the appalling conditions in early industrial towns created explosive social tensions in all industrializing societies.

Governments outside the core region of the early Industrial Revolution had to face the impossible challenge of trying to match European economic and military performance without undermining the traditional social and cultural structures on which their own power was based. The transition was bound to be painful because the dominant polities of the agrarian era had been based primarily on traditional forms of landlordship rather than on commerce; yet, people increasingly realized that industrialization was linked closely with commercial activity. Not surprisingly, the creation of modern forms of government frequently led to the violent breakdown of traditional social structures and systems of rule. Japan

I am inclined to think that history pays its way largely in the personal satisfaction of sitting on the fence and enjoying vicariously the trials and tribulations of men and times now ended. • AVERY O. CRAVEN (1885–1980)

was one of the few traditional societies that managed to make a transition to a modern industrial economy without destroying the fabric of its society.

By 1900 many features of the modern revolution were apparent throughout the North Atlantic core region, and, for better or worse, many other parts of the world were also beginning to feel its impact on lifeways, economies, governments, and ways of thinking.

### Twentieth-Century Crisis: 1914-1945

Between 1913 and 1950 the engine of growth that had transformed so much of the world seemed to break down. Global rates of growth of GDP slowed from 1.30 percent per annum between 1870 and 1913 to 0.91 percent between 1913 and 1950. The slowdown affected all the core regions of the Industrial Revolution but was even more pronounced in the former agrarian colossi, China and India. The apparent exception to the rule was Russia, whose annual growth rate rose from 1.06 percent during the late czarist period to 1.76 percent between 1913 and 1950.

The slowdown was caused in part by a breakdown in the international banking and trading systems that had helped spread the Industrial Revolution. Between 1870 and 1950 the proportion of world production that was traded internationally actually fell. Part of the problem was that the governments of industrializing countries were still learning how best to manage rapid economic growth, and all too often, like the great agrarian empires of the past, they treated growth as a zero-sum game (a situation in which a gain for one side entails a loss for the other side) that could be won only by excluding rivals

For more on these topics, please see the following articles:

Colonialism p. 381 (v2)

Communism and Socialism p. 401 (v2)

Fascism p. 733 (v2)

Genocide p. 815 (v2)

World War I p. 2079 (v5)

World War II p. 2085 (v5)

from protected markets. The burst of imperialism during the late nineteenth century was the most obvious expression of this rivalry; another was the spread of protectionism (protection of domestic producers through restrictions on foreign competitors), and a third was the emergence of a system of defensive alliances in Europe, which helped turn a crisis in the Balkans into a global war. Distrust and rivalry among the major industrial powers clogged the arteries of international exchange that were so crucial as a source of economic growth and political stability.

After the assassination of Archduke Francis Ferdinand, the heir to the throne of the Austro-Hungarian empire, on 28 June 1914, Austria invaded Serbia, Russia intervened to defend Serbia, and Germany declared war on Russia, which dragged Russia's allies, Britain and France, into the war. The global reach of European colonial and commercial networks dragged other regions into the war. German colonies in Africa, the Pacific, and China were seized by French, British, and Japanese armies; troops and supplies came to Europe from present and former colonies in India, southeastern Asia, Africa, Australasia, and North America as well as from semicolonies such as Argentina. In 1917 the United States entered the war against Germany.

Nineteenth-century military innovations ensured that World War I would be particularly bloody. New weapons included machine guns, tanks, airplanes, and chemical weapons such as mustard gas, which could burn out the internal organs of its victims. Ironically, medical improvements kept more troops at the front, only to be slaughtered in the thousands by machine guns or artillery in often futile raids on enemy positions. Modern industrial states mobilized for "total war" effectively as they took control of national economies to supply their armies. The home fronts—where women replaced men on the farms, in munitions factories, or on the railways—were as vital to success as the armies. Indeed, the role of women during World War I was a major factor in the rapid spread of women's suffrage during the postwar years. World War I was not the first total war of the industrial era—the U.S. Civil War deserves that title more—but it demonstrated

# Extract from All Quiet on the Western Front

Since its publication in 1929, All Quiet on the Western Front has remained a classic novel about the personal anguish of soldiers in war. German writer Erich Maria Remarque (1898–1970) based the novel on his own experiences as a soldier during World War I. Below is one of the most profound quotes from the book.

But now, for the first time, I see you are a man like me. I thought of your hand-grenades, of your bayonet, of your rifle; now I see your wife and your face and our fellowship. Forgive me, comrade. We always see it too late. Why do they never tell us that you are poor devils like us, that your mothers are just as anxious as ours, and that we have the same fear of death, and the same dying and the same agony—Forgive me, comrade; how could you be my enemy?

Source: Remarque, E. M. (1929). All Quiet on the Western Front (A. W. Wheen, Trans., p. 223). New York. Fawcett Crest.

even more powerfully the appalling scale and destructiveness of industrialized warfare, and it was the first truly global war of the modern era.

#### GLOBAL UPHEAVAL

A punitive peace treaty negotiated in Versailles, France, and the failure of the newly created League of Nations ensured that the rivalries that had caused World War I did not go away. In 1929 the international trading and banking system finally collapsed, leading to a depression that affected all the major capitalist powers, as well as the Asian, Latin American, and African countries that supplied them with raw materials. The Great Depression seemed to confirm the socialist prediction that the capitalist system would eventually break down. Many governments retreated even further into autarchy (national economic self-sufficiency and independence) as they saw themselves competing for a dwindling share of world resources and markets.

In 1933 in Germany a fascist government emerged led by Adolf Hitler (1889–1945). Hitler was determined to reverse the losses of World War I, if necessary through



conquest. Fascism also took hold in Italy, the birthplace of fascism's founder, Benito Mussolini (1883–1945), as well as in Spain, Brazil, and elsewhere. Fascism and socialism both reflected a deep disillusionment with the liberal capitalist ideologies of the late nineteenth century, but whereas fascists anticipated an era of national and racial conflict, in which the fittest and most powerful would triumph, revolutionary socialists framed the conflict in terms of class war that would pit capitalism against socialism.

The appearance in Russia of a Marxist-inspired state determined to overthrow capitalism was another apparent sign of the breakdown of nineteenth-century capitalism. Russia's czarist government had encouraged industrial growth but had failed (unlike the Meiji government in Japan) to incorporate within its ruling structures the entrepreneurs who would be needed to make a success of industrialization. Eventually the rapid growth of an urban proletariat (working class) and the impoverishment of increasing numbers of peasants generated a social crisis that, when combined with military defeat during the Russo-Japanese War and the huge costs of participation in World War I, led to the collapse of the Russian imperial state. Traditional elites reacted too passively to the crisis, which allowed the Bolsheviks, led by Vladimir Lenin (1870–1924), to seize power and hold on to it during a brutal civil war (1918–1920).

The Bolsheviks were radical Marxists, committed to the overthrow of world capitalism and its replacement by a society in which productive resources such as the land, banks, and all large enterprises would be owned collectively. Under Lenin's successor, Joseph Stalin (1879–1953), the Soviet government took decisive and brutal steps to build up a noncapitalist industrial society capable of challenging the might of its capitalist rivals. Employing methods of state management pioneered during World War I, the Soviet government began to manage and coordinate the entire Soviet economy, leaving no significant role to market forces. To manage rapid industrialization and rearmament, the Soviet government created a huge, powerful, and coercive state apparatus, willing and capable of acting with extreme brutality

Hegel says somewhere that all great events and personalities in world history reappear in one fashion or another. He forgot to add: the first time as tragedy, the second as farce. • Karl Marx (1818–1883)

where necessary. For a time people thought the new system might match the economic and military power of the major capitalist states. During the 1930s and again during the 1950s rates of economic growth were more rapid in the Soviet Union than elsewhere (although the lack of market prices in the Soviet command economy makes monetary comparisons difficult).

#### REARMAMENT

During the 1930s, in an international climate of increasing tension, all the major powers began to rearm. World War II began with attempts by Japan and Germany to create their own land empires. Japan invaded Manchuria in 1931 and China proper in 1937; Germany's expansionist drive led to war in Europe in 1939 after Germany invaded Poland. In 1941 the United States, now the largest economic power in the world, entered the war after Japan's preemptive attack on Pearl Harbor, and the Soviet Union entered the war after being invaded by Germany. World War II was fought in the Pacific and in eastern and southeastern Asia as much as in Europe, but eventually the economic and military power of the United States and the colossal mobilizational efforts of the Soviet Union helped turn the tide against the Axis powers (Germany, Japan, and Italy). World War II was even crueler than World War I. Sixty million people may have died about 3 percent of the world's population at the time.

The war ended with the use of the most terrible weapon yet invented—the atomic bomb. The first atomic bombs were dropped by the United States on the Japanese cities of Hiroshima and Nagasaki in August 1945. Most of the casualties of World War II were civilians as the aerial bombing of cities became, for the first time, a recognized weapon of modern warfare. The extreme brutality of the war found its most potent symbol in the systematic murder by Hitler's Nazi Party of almost 6 million Jews in what has come to be known as the "Holocaust."

By the end of the war Europe no longer dominated the global economic system. The new superpowers were the United States and the Soviet Union. Each had its own allies and clients, and each represented a different path to modernity. The size and power of the Communist bloc were enhanced by the incorporation of much of eastern Europe and by the emergence in 1949 of a Communist-dominated China led by Mao Zedong (1893–1976). By 1950 almost one-third of the world's population lived under Communist governments. Throughout this period economic growth was more rapid outside of Europe, particularly in the United States, the Soviet Union, and Japan, but also in regions such as Latin America.

The emergence of powerful anticolonial movements in southeastern Asia, India, Africa, and elsewhere marked the beginning of the end of European imperialism. In India the Indian National Congress, established in 1885, became a powerful supporter of independence, and in Mohandas Gandhi (1869–1948) it found an inspirational and creative leader whose nonviolent protests forced Britain to grant independence to the newly created states of India and Pakistan in 1947.

Despite the crises of the early twentieth century, socialist predictions of the death of capitalism were premature. Technological innovation was rapid throughout the period; the internal combustion engine entered mass production, aviation emerged (first as a weapon of war and then as a new form of commercial and personal transportation), and chemical substitutes for textiles and rubber were first produced. This was also the era of sonar, of nuclear power, and of oil. It also was an era of fundamental scientific breakthroughs, particularly in physics.

Other developments helped ensure that the capitalist engine of growth would revive and that the frenetic pace of economic growth of the nineteenth century would eventually be resumed. The managerial principles that would help revive growth first became apparent in the United States. Two developments were particularly important: mass production on assembly lines, pioneered by Henry Ford (1863–1947) in 1913, and mass consumerism, a phenomenon whose importance first became apparent during the 1920s as ordinary people began to gain access to modern goods such as cars, telephones, and radios.

#### Buying into Consumerism

Mass consumerism eventually provided a solution to the fundamental problem of underconsumption, which had History gets thicker as it approaches recent times. • A. J. P. Taylor (1906–1990)

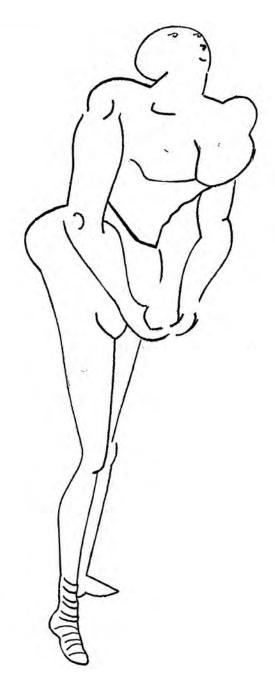
haunted producers during the nineteenth century when, as productivity rose, they had greater difficulty marketing what they produced. From at least the 1870s people had realized that capitalist economies are prone to periods of boom and bust as productivity outstrips market demand. The business cycles of capitalist economies were the modern equivalents of the agrarian era's Malthusian cycles of growth and decline, but, in a striking contrast, the business cycle was driven by overproduction, whereas Malthusian cycles had been driven largely by underproduction. During the early twentieth century people realized that raising demand might be a more promising way of ensuring long-term growth than seeking protected markets.

However, for demand to rise, governments and employers had to ensure that consumers had sufficient cash in their pockets to purchase goods and services. During the depression of the 1930s economists such as John Maynard Keynes (1883–1946) argued that governments could help revive capitalist economies not by cutting wages further, but rather by boosting consumption through devices such as the provision of unemployment payments. However, governments were already experimenting with such devices. In the United States the "New Deal" of the 1930s pumped large amounts of money into the economy through government programs mostly designed to boost spending by creating employment through the building of new infrastructure such as roads and dams.

For capitalist governments mass consumption offered another advantage that undercut some of the anticapitalist arguments of Marxism and its offshoots. During the twentieth century people realized that populations with access to increasing material wealth were unlikely to turn into the sort of revolutionary proletariat that the German political philosopher Karl Marx had envisaged as the gravediggers of capitalism. Mass consumption was the capitalist antidote to revolution.

## Crisis and Innovation

In many fields the crisis period of 1914–1945 was also a period of cultural revolution. The theory of relativity advanced by the U.S. physicist Albert Einstein (1879–



This line drawing by the poet ee cummings shows the austerity typical of so-called modern art.

1955) and quantum mechanics, developed by such scientists as Niels Bohr (1885–1962), Erwin Schrodinger (1887–1961), Werner Heisenberg (1901–1976), and Max Born (1882–1970), challenged earlier mechanistic models of the universe, while the Austrian neurologist Sigmund Freud (1856–1939), by showing the importance of unconscious psychological drives, challenged

Examine the history of all nations and all centuries and you will always find men subject to three codes: the code of nature, the code of society, and the code of religion...[T]hese codes were never in harmony. • Denis Diderot (1713-1784)

faith in the role of reason in human affairs. New art forms, such as cinema, brought artistic realism into mass culture and challenged artists and writers to experiment with new, less realistic forms of expressionism, from the cubism of painters such as Pablo Picasso (1881–1973) to the dream narrative of *Finnegans Wake* by James Joyce (1882–1941).

The new technologies of mass culture, including radio, newspapers, and particularly the cinema, offered new ways of influencing the ideas, attitudes, and fantasies of people throughout the world, and governments as well as advertisers came to appreciate their power. The Soviet government was particularly creative in using the mass media to spread its ideas. The new mass media also helped create a mass culture that could challenge the hegemony of traditional high culture. Outside of the industrial heartland, the revival of traditional religious and artistic traditions, such as those of Hinduism and Buddhism, began to play an important role in creating new national cultures that could challenge the cultural hegemony of the North Atlantic region.

# Contemporary Period: 1945—Present

After World War II the capitalist engine of growth roared to life again to generate the most rapid economic growth in world history. From 0.91 percent per annum between 1913 and 1950, global rates of growth of GDP rose to 2.93 percent between 1950 and 1973 before falling to the more modest but still impressive rate of 1.33 percent between 1973 and 1998.

The international economic order was revived and restabilized by expanding markets, by massive reconstruction aid from the United States, and by the creation of global regulatory institutions such as the United Nations (in 1945) and the International Monetary Fund (in 1947). After falling between 1913 and 1950, the proportion of goods produced for international markets tripled between 1950 and 1995. A revival in international trade and the spread of mass consumerism, first in the United States and then in Europe and Japan, stimulated economic growth in all the leading capitalist coun-

tries. For the first time significant numbers of consumers in Europe and Japan began to buy private cars, televisions, and radios and even exotic foreign holidays, made possible by the reduced cost of air transportation. A new wave of innovations in electronics, many stimulated by wartime research programs, ushered in the electronic revolution of the 1980s and 1990s, and innovations in biology, including the discovery of the structure of deoxyribonucleic acid (DNA, the carrier of genetic information), spawned new techniques of genetic engineering whose implications are still unclear.

Capitalist governments became increasingly adept at sustaining growth by stimulating consumption and by seeking the right balance between intervention and laissez-faire (a doctrine opposing governmental interference in economic affairs). Slumps during the early 1970s and the late 1990s demonstrated that the business cycle has never been completely tamed. Nevertheless, many of the protectionist illusions of the late nineteenth century were shed as governments realized that in a world of rapid global growth, the wealth of individual nations (even the most powerful) usually depends more on global economic growth than on the possession of protected markets. A clearer understanding of the economic and political realities of modern capitalism explains the

For more on these topics, please see the following articles:

American Empire p. 82 (v1)

Climate Change p. 363 (v1)

Cold War p. 376 (v2)

Consumerism p. 435 (v2)

Globalization p. 849 (v3)

Green Revolution p. 870 (v3)

Human Rights p. 939 (v3)

Mass Media p. 1203 (v3)

Postcolonial Analysis p. 1502 (v4)

Progress p. 1514 (v4)

Religious Freedom p. 1574 (v4)

Russian-Soviet Empire p. 1638 (v4)

Social Welfare p. 1737 (v4)

United Nations p. 1916 (v5)

Urbanization p. 1925 (v5)

But even regarding History as the slaughter-bench at which the happiness of peoples, the wisdom of States, and the virtue of individuals have been victimized—the question involuntarily arises—to what principle, to what final aim, these enormous sacrifices have been offered. • G. W. F. Hegel (1770–1831)

decision of U.S. governments to finance postwar reconstruction in Europe (through the Marshall Plan) and in Japan, even if that meant turning former enemies into commercial rivals. Partly in this spirit, and partly under pressure from indigenous anticolonial movements, European governments surrendered the empires they had conquered during the late nineteenth century.

During the forty years after 1945 roughly a hundred nations achieved independence from their European overlords, and another batch of new nations emerged after the collapse of the Soviet Union in 1991. By 2004 the United Nations had 191 members.

Industrialization spread beyond the core regions of the late nineteenth century, partly with the active support of the major capitalist powers. Economic growth was particularly rapid until the late 1990s in eastern and southeastern Asia, in particular in South Korea, Taiwan, Malaysia, Thailand, Hong Kong, and Singapore, all of which were influenced by the Japanese model of growth.

### Rockets and Rubles

Global economic growth occurred despite the partitioning of the world into two major power blocs. The capitalist and Communist powers challenged each other militarily, economically, and politically. For several decades these rivalries threatened to ignite a third world war, fought this time with nuclear weapons. However, the Cold War was also a contest for economic and political hegemony. The two blocs offered rival paths to economic growth, and for perhaps three decades people did not know whether the command economies of the Communist world or the capitalist economies of the West would generate the most rapid growth, although both sides agreed that during the modern era economic growth is the key to political and military success.

After Stalin's death in 1956 Soviet living standards began to rise as his successors steered investment toward consumer goods and housing. During the 1950s the Soviet Union enjoyed a string of successes that seemed to demonstrate the technological dynamism of its command economy. These successes included the creation of Soviet nuclear weapons and missiles, the launching of the

first space satellite, *Sputnik*, in October 1957, and the launching of the first human, Yuri Gagarin (1934–1968), into orbit in 1961.

Then, during the 1970s, Soviet growth rates began to slow, and disillusionment set in as Soviet citizens realized that their living standards were well behind those of the major capitalist countries. Although the command economy could indeed innovate when massive resources were devoted to large prestige projects, without the constant pressure of competitive markets it could not generate the trickle of petty innovations that drove productivity growth in the capitalist world. By the 1980s it was clear that the Soviet economy was failing to incorporate the new electronic technologies that were revolutionizing capitalist economies and societies. Soviet generals understood that this fact was a military as well as a technological disaster for the Soviet Union.

The failures of the Soviet economy tell us much about the driving mechanisms of the modern revolution. Soviet planners understood from as early as the 1950s that the weaknesses of the command economy derived from the lack of domestic competition and the absence of any effective equivalent of the profit motive. Even during the 1930s high rates of growth derived more from a massive, and highly coercive, mobilization of labor and resources than from real gains in efficiency. During the mid-1980s a new leader, Mikhail Gorbachev (b. 1931), admitted that the Soviet economy was grinding to a halt because it could no longer keep mobilizing new resources, as it had during the 1930s and 1940s. The Soviet system collapsed because its mobilizational strategy of growth, like that of traditional agrarian empires, although effective in military crises, stifled innovation. The failure of the Soviet command economy provides ironic support for Karl Marx's claim that capitalism is the motor of modernity.

## CHINA ADAPTS

Communist China offers an apparent exception that proves the rule. During the 1950s the government of Mao Zedong tried to industrialize using the methods of Stalin. However, the economic and social disasters of the Great Leap Forward (1958–1961, a period in which the

# The Marshall Plan

In a speech delivered on 5 June 1947 by U.S. Secretary of State George C. Marshall at Harvard University, Marshall laid out what would become known as the Marshall Plan. The United States was willing to offer up to \$20 billion in relief to a war-torn Europe struggling to survive after a brutal winter if the Western European nations would cooperate as a single economic unit. (Marshall also offered aid to the Soviet Union and its allies, which was rejected by the Soviet leader Joseph Stalin.) As evidenced by Marshall's words in the extracts that follow from his speech, the plan was crucial to the survival and growth of post–World War II Europe.

I need not tell you gentlemen that the world situation is very serious. That must be apparent to all intelligent people. I think one difficulty is that the problem is one of such enormous complexity that the very mass of facts presented to the public by press and radio make it exceedingly difficult for the man in the street to reach a clear appraisement of the situation. Furthermore, the people of this country are distant from the troubled areas of the earth and it is hard for them to comprehend the plight and consequent reaction of the long-suffering peoples, and the effect of those reactions on their governments in connection with our efforts to promote peace in the world.

[...]

The truth of the matter is that Europe's requirements for the next 3 or 4 years of foreign food and other essential products—principally from America—are so much greater than her present ability to pay that she must have substantial additional help, or face

economic, social, and political deterioration of a very grave character.

The remedy lies in breaking the vicious circle and restoring the confidence of the European people in the economic future of their own countries and of Europe as a whole. The manufacturer and the farmer throughout wide areas must be able and willing to exchange their products for currencies the continuing value of which is not open to question.

Aside from the demoralizing effect on the world at large and the possibilities of disturbances arising as a result of the desperation of the people concerned, the consequences to the economy of the United States should be apparent to all. It is logical that the United States should do whatever it is able to do to assist in the return of normal economic health in the world. without which there can be no political stability and no assured peace. Our policy is directed not against any country or doctrine but against hunger, poverty, desperation, and chaos. Its purpose should be the revival of working economy in the world so as to permit the emergence of political and social conditions in which free institutions can exist. Such assistance, I am convinced, must not be on a piecemeal basis as various crises develop. Any assistance that this Government may render in the future should provide a cure rather than a mere palliative. Any government that is willing to assist in the task of recovery will find full cooperation, I am sure, on the part of the United States Government.

[...]

 $Source: {\it Congressional\ Record\ (June\ 30,1947)}. \ Retrieved\ September\ 8,2004, from\ http://usinfo.state.gov/usa/infousa/facts/democrac/57.htm$ 

Chinese government tried to force the pace of industrialization by abolishing all private property) and the chaos of the Cultural Revolution (1966–1976, a period of internal chaos during which millions were accused of anticommunist activities and subjected to exile, banishment, or death), combined with the growing rift between China and the Soviet Union, encouraged the Chinese government to retreat from the Soviet ideal of total state control of the economy. After Mao's death in 1976 his

successors cautiously reintroduced elements of a market economy, and as entrepreneurial activity spread in China, economic growth accelerated. Capitalism was never entirely destroyed in China (as it had been in the Soviet Union), which is why, despite the survival of its Communist government, its economy has shifted with some success toward a competitive market economy.

Throughout the world economic growth and the many changes that have come with growth transformed lifeways

Time present and time past Are both perhaps present in time future, And time future contained in time past.

during this period. Mass education was introduced in most of the world; thus, a majority of people in most countries were introduced to the basics of literacy. More and more people lived in huge cities as improved medical, sanitary, and educational services and increasing opportunities for wage work lured people from the villages. For the first time in human history cities became healthier places than villages, at least where they were supplied with the basic amenities of clean water, sanitation, medical services, transportation, and electricity. Improved medical care explains the astonishing fact that in just thirty-five years (1955–1990), the average life span of human beings increased from about thirty-five years to fifty-five years.

Urbanization transformed gender relations as families adapted to an urban world in which women's salaries were as vital as those of men. Women have become increasingly visible in government, in education, in medicine, and in science. Yet, true gender equality, like economic equality, still seems a remote goal. Worldwide in 1990 about eighty women were in secondary education and sixty-five in tertiary education for every hundred men, and only about sixty women were in paid employment for every hundred men.

During the 1980s and 1990s new forms of electronic communications and transportation and the reintegration of the Soviet Union (and its successor states) and China into the capitalist world economy bound the world together more tightly than ever before. This new pulse of global integration has come to be known as "globalization." Globalization stimulated economic growth in most of the core industrial economies and many newly industrialized countries, although many of the world's poorer countries found the costs of competition too high and fell further behind, particularly in parts of Africa and Latin America. For better or worse, globalization also brought the world's many cultures into closer contact. As television and radio became more common even in Third World countries, the cultural norms and consumerist values of the most industrialized countries became commonplace throughout the world.

# Coca-Cola Culture and the Backlash

The influence of the United States was particularly pervasive as consumer goods such as Coca-Cola and U.S. styles in clothing, music, sports, and entertainment became familiar throughout the world. Yet, Western influences have also generated a powerful backlash as governments and citizens in other parts of the world have tried, with varying degrees of success, to defend traditional cultural and religious values. The emergence of new forms of radical anti-Westernism is merely one reflection of growing resistance to Western values.

Resistance to Western values has been fueled by increasing global inequality. In 1960 the wealthiest 20 percent of the world's population earned about thirty times as much as the poorest 20 percent; in 1991 the wealthiest 20 percent earned sixty-one times as much. The successes of the most highly industrialized countries threw a harsh spotlight on the poverty of less industrialized regions, highlighting inequalities in income and in access to medical and educational resources and to necessities such as clean water and air. Although industrialization spread to more and more countries during the twentieth century, in too many cases it was incomplete or narrowly based on the trade in specialist commodities such as coffee or oil or managed by corrupt militaristic governments that skimmed off profits or spent them on armaments rather than reinvesting them in growth.

Although the wealth and the technologies exist to provide all humanity with basic medical care, clean water, and adequate food, millions still die from famine or water-borne diseases in the least industrialized regions of the world, and lack of appropriate education and services has contributed to the rapid spread of AIDS, particularly in southern Africa, where in some countries almost one-quarter of the adult population had AIDS during the mid-1990s. Peasants have become increasingly marginalized as traditional rural lifeways have been undermined by overpopulation, the fragmentation of landholdings, and competition from cheap overseas imports.

In much of the world the modern era has included the

If all time is eternally present
All time is unredeemable.
• T.S. Elliot (1888–1965)

death of the peasantry, the class to which most humans had belonged throughout the agrarian era. The collapse of Communism has created Third World conditions in much of the former Communist world as well. For many people, even at the beginning of the twenty-first century, the modern revolution must still seem like a distant dream. Directly or indirectly, the deep economic, political, and cultural inequalities of the modern world likely will continue to fuel bloody guerrilla conflicts in which small groups with modern weapons attempt to resist the cultural, economic, and military power of the wealthiest capitalist states.

#### BURNING THE CANDLE

Whereas many people have seen the dire conditions in the world's poorest countries as a sign of those countries' backwardness, others have seen such conditions as a warning of future dangers. During the second half of the twentieth century people were increasingly aware that the rapid population growth and increasing consumption of the modern era had put new pressures on the whole biosphere (the part of the earth's surface, seas and atmosphere inhabited by living things). Indeed, in *Something New Under the Sun*, John McNeill argued that, in the long perspective, the changing human relationship with the environment may turn out to be the most important of all the changes that occurred during the twentieth century.

Population growth accounts for much of the impact as cities have gobbled up farmland and forest land, as roads and highways have paved over more land, and as Third World farmers have cleared forest lands to eke out a living. However, late during the twentieth century people realized that rates of population growth were slowing throughout the world as urbanization, increasing education, and improved services simultaneously reduced the pressure to have large families and raised their cost. At present, it seems likely that global populations will level out at 9 to 10 billion toward the end of the twenty-first century.

On the other hand, consumption levels are rising in much of the world. As industrialization spreads to China,

India, Africa, and much of Latin America, and as more and more consumers begin to expect the material living standards currently enjoyed in Europe and North America, human pressure on the environment will increase even as population growth slows. Environmental strains take many forms. Habitats invaded by humans are no longer available to other species; thus, current rates of extinction may be as high as during the most rapid extinction episodes of the last 600 million years.

Some resources are already being used at dangerously high levels; this is particularly true of fisheries and clean water. However, the most dangerous of all these threats may be the impact on the atmosphere of burning large quantities of fossil fuels. Carbon dioxide is one of several greenhouse gases—gases that hold in the sun's heat and therefore tend to raise the average temperature of the atmosphere. Deforestation may have increased global carbon dioxide levels during the agrarian era, but the burning of fossil fuels since the Industrial Revolution has greatly increased these levels, from approximately 280 parts per million in 1800 to approximately 350 in 2000, and levels could reach 550-660 parts per million by 2150. The exact consequences of this human manipulation of the atmosphere are not yet clear, but they are likely to cause significant and perhaps rapid changes in global climatic patterns—changes as great as those that occurred at the end of the last ice age.

# Modern Era in World History

In 1969, by landing on the moon, human beings took the first, hesitant steps toward leaving their home planet. These steps brought into focus some of the major changes of the modern revolution, reminding humans that the increasing power and complexity of human societies were bought at a price and came with dangers. Humans now have the power to destroy themselves and to do much damage to the planet. Our increased power clearly has brought responsibilities for which we are ill prepared, and the great complexity of the modern global community has created new forms of vulnerability and

The whole of contemporary history, the World Wars, the War of Dreams, the Man on the Moon, science, literature, philosophy, the pursuit of knowledge—was no more than a blink of the Earth Woman's eye. • Arundhati Roy (b. 1960)

the fearsome prospect of a major collapse, similar to the collapses suffered in the past by many overambitious irrigation-based societies. On the other hand, the immense sophistication and scale of the knowledge available today hold out the promise of a managed transition to a more sustainable relationship with the biosphere.

What remains unclear, then, is whether the modern revolution will lead to the emergence of a new global system capable of relative ecological, economic, and political stability, or whether the accelerating change of the modern era is the prelude to a sudden, sharp collapse that will drive many parts of the world back to the productivity levels of the early agrarian era, if not even further. Perhaps the fundamental paradox of the modern revolution is that on the one hand human control over the biosphere has increased spectacularly; yet, on the other hand we have not yet shown that we can use that control in ways that are equitable and sustainable. We must wait to see whether the astonishing collective achievements of our species will prove ephemeral or enduring.

## **Further Reading**

- Anderson, B. S., & Zinsser, J. P. (2000). A history of their own: Women in Europe from prehistory to the present (2nd ed.). New York: Oxford University Press.
- Bairoch, P. (1988). Cities and economic development: From the dawn of history to the present. Chicago: University of Chicago Press.
- Bayly, C. A. (2004). The birth of the modern world 1780–1914. Oxford, UK: Blackwell.

- Christian, D. (2004). Maps of time: An introduction to big history. Berkelev and Los Angeles: University of California Press.
- Davies, R. W., Harrison, M., & Wheatcroft, S. G. (Eds.). (1994). The economic transformation of the Soviet Union, 1913–1945. Cambridge, UK: Cambridge University Press.
- Frank, A. G. (1998). *ReOrient: Global economy in the Asian age*. Berkeley and Los Angeles: University of California Press.
- Headrick, D. R. (1990). Technological change. In B. L. Turner, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Mathews, & W. B. Meyer. (Eds.), The Earth as transformed by human action: Global and regional changes in the biosphere over the past 300 years (pp. 55–67). Cambridge, UK: Cambridge University Press.
- Hobsbawm, E. J. (1962). *The age of revolution, 1789–1848.* New York: New American Library.
- Hobsbawm, E. J. (1977). The age of capital. London: Abacus.
- Hobsbawm, E. J. (1987). The age of empire. London: Weidenfeld & Nicolson.
- Hobsbawm, E. J. (1994). The age of extremes. London: Weidenfeld & Nicolson.
- Maddison, A. (2001). The world economy: A millennial perspective. Paris: OECD.
- Marks, R. B. (2002). The origins of the modern world: A global and ecological narrative. Oxford, UK: Rowman & Littlefield.
- McNeill, J. R. (2000). Something new under the sun: An environmental history of the twentieth-century world. New York: W. W. Norton.
- McNeill, J. R., & McNeill, W. H. (2003). The human web: A bird's-eye view of world history. New York: W. W. Norton.
- Palmer, R. (1959–1964). The age of the democratic revolution: A political history of Europe and America, 1760–1800 (Vols. 1–2). Princeton, NJ: Princeton University Press.
- Pomeranz, K. (2000). The great divergence: China, Europe, and the making of the modern world economy. Princeton, NJ: Princeton University Press.
- Population Reference Bureau. (n.d.). Human population: Fundamentals of growth, patterns of world urbanization. Retrieved August 27, 2004, from http://www.prb.org/Content/NavigationMenu/PRB/Educators/Human\_Population/Urbanization2/Patterns\_of\_World\_Urbanization1.htm
- Wong, R. B. (1997). China transformed: Historical change and the limits of European experience. Ithaca, NY: Cornell University Press.
- World development indicators. (2002). Washington, DC: World Bank.









Notes: 1) Bold entries and page numbers denote encyclopedia entries; 2) The bold numbers preceding the page numbers denote the volumes (1–5) where the page numbers can be found. 3) Page references preceded by TFW refer to the pages of David Christian's This Fleeting World: An Overview of Human History. This Fleeting World appears near the front of volumes 1 and 5 and is identified for your convenience by the shaded edge of pages that you see on the side of these volumes.

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