A HISTORY OF PSYCHOLOGY

Lecture notes of Dr. Lionel Corbett--for private circulation only.

Part 1: From the Greeks to the Renaissance

Why Study the History of Psychology?

We inherit a certain way of thinking--we are born into a tradition of particular ways of knowing and being.[1] Ideally, the more we know this tradition the more we will be able to develop it consciously, rather than blindly repeat it, and the better we will be at thinking differently when necessary. Psychologists by their nature are interested in what people have done and why they did it--but what is it that makes us think that something is historically significant--what is that judgment based on? (The same problem arises in psychotherapy; which aspects of an individual story are the most important, and how do you read them? The answer depends on your theoretical orientation.) In the history of psychology we see the history of the psyche thinking about itself, and the progressively increasing self-consciousness of our species. As well as the history of psychology itself, a study of history in general is valuable for the psychologist, since it tells us about human nature--history is about the behavior of people/s.

Historians have a similar problem to depth psychologists, because it is impossible to exactly replicate a particular set of historical circumstances so as to predict what will happen in a current situation; very complex human behavior has so many variables that we cannot reproduce them. We cannot predict accurately what will happen in a given situation. (So can we learn from history? We can avoid past mistakes in similar circumstances, and we can try to anticipate, even if it means we can only approximate.)

Western history is typically, and arbitrarily, divided into the pre-historical period, the ancient period, the medieval period, and the modern and postmodern periods. To put things in linear perspective: *Homo Sapiens* appeared about 250, 000 years ago. The last ice age was about 40, 000 BCE; Neanderthals died out about 30,000 years BCE; cave paintings in France and Spain are dated to about 20, 000 BCE; agriculture developed in the Middle East about 8, 000 BCE; the Neolithic period began about 6,000 BCE; the Egyptian calendar began about 4236 BCE; the first Egyptian dynasty began in 3100 BCE; the Phoenicians settled the eastern Mediterranean coast about 3000 BCE; Knossos was founded by the Minoans in Crete in 2500 BCE, about the time of

[1] It is important to think about the *connection* between knowing and being!

the Sumerian empire; the European Bronze Age began in 2000 BCE; Stonehenge began about 1860 BCE; the Israelites invaded Canaan in about 1200 BCE; the Greeks destroyed Troy in 1193 BCE; King Saul of Israel lived in 1020 BCE; David captured Jerusalem in 994 BCE, and the temple was dedicated in 953 BCE; Homer wrote in the 8th century BCE; the first Olympic Games took place in 776 BCE; Rome was founded in 753 BCE; Buddha was born in 563 BCE, and Socrates in 469 BCE. With respect to Greek thought, the Ancient period has three sub-periods: Pre-Socratic, Socratic, and Aristotelian, with Plato bridging between Socrates and Aristotle. The Hellenic period begins about the time of the Pythagoreans in 530 BCE, and ends with Aristotle, about 200 years later. It is fascinating that between about 800 and 200 BCE we see the Upanishads, Confucius, Lao-Tse, Buddha, Zarathustra, the prophets of the Hebrew Bible, Homer, and the Greek philosophers.

The Medieval period, or the Middle Ages, lie between ancient and modern times, from the fall of the Roman Empire in 476 CE to the Renaissance, which roughly began in the mid 15th century. This started the movement towards the modern period with its scientific methods that began in the 17th. century, leading to the Industrial Revolution of the late 18th. and 19th. centuries, followed by the post-modern period.

When Did Psychology Begin?

The answer depends on how we define psychology. Modern laboratory psychology goes back to 1879, when Wundt established his laboratory in Leipzig. But the systematic study of behavior and emotion goes back at least to Aristotle--4th century BCE-- and speculation about the soul is much earlier, so this is not a young field. Whether we include Aristotle and the Greeks as early psychologists is simply a matter of what we decide is the subject matter of psychology--Wundt studied different things than did Aristotle. Some people begin the history of modern psychology with Descartes in the 17th century, because this was when the mind was radically split from the body, which led to the development of psychology as distinct from physiology. In any case, we must not look at earlier ages through the lens of our current age--we have to try to understand the world view of a given period, and not impose our own. Nor can we assume that an idea begins in one place and is then passed along to others successively; the same ideas crop up all over the place at different times. Copernicus may have derived his idea of the earth's motion by himself, even though the idea had existed long before him. Similarly, atomic theory could have arisen in our time without contemporary physicists' knowing about Democritus.

The Pre-Historical Period

Obviously, we don't know much about the psychology of the pre-historical period. We can only guess and project, based on the findings of paleontologists who uncover remnants of the Stone Age. Early *Homo Sapiens* made tools of flint and stone, and are thought to have hunted in small bands, presumably of families. The usual speculation is that early people did not distinguish between biological and non-biological aspects of their world; since the earth, the winds, the sun and the moon seemed to move, they may have been assumed to be alive, and to have intention, because people usually associate action with intention. We note here a human tendency to infer purpose from action.

Paleontologists find bags of bone and teeth; perhaps these were thought to have magical power, or acted as amulets. Originally, it is thought that healing--mental and physical-- was combined with magic and religion; the doctor was a priest. Early forms of psychotherapy may have depended on what modern anthropologists call *mana* (a term introduced by Codrington in studies of Melanesia)--this is a supernatural power that is still found in today's so-called primitive religions; the shaman or medicine man was in special relationship with the spirits or gods. He or she could harness this force, or or could connect with the other world to heal the sick, read the oracles, do and undo magic. The shamans were expert practical psychologists--shamanism is the oldest profession. We assume that early people tried to heal by connecting with the spirits, by ritual exorcism of demons, and by other shamanic practices, because these are what have survived. Cave art from 30, 000 years ago suggests that caves were used for ritual purposes such as hunting magic.

Animism characterizes virtually all early cultures. Animism is a way of perceiving the world that emphasizes the existence of spirits, ghosts and gods, who interact with humans and inhabit objects such as trees and streams. This idea goes back a long way. Perhaps early people, noticing that breath stopped at death, believed that something had left the body. That is, the idea of breath became reified; the breath that left the body was ìaî spirit. Some evidence for this speculation is fouind in the fact that, in many languages, the word for spirit is also the word for breath; the assumption here is that the roots of a word may reflect an early, pre-cognitive or unconscious assumption about the nature of things.

Early people may have understood sleep as a time when the spirit left the body but returned--perhaps because of the experiences of the dream world. It was as if there was an inner essence to the personality that could come and go autonomously. It would be a short step to assume that

other elements of the universe, such as mountains and trees, also had spirits, whose presence accounts for their behavior. Spirits are autonomous--they can occupy the body of men and animals, causing illness or madness, psychic ability or spiritual experiences. So, early explanations of behavior are theological; a spirit or god is the cause of what happens; there are many gods to explain different natural phenomena.

We do not know much about early healing practices. There are fragmentary medical writings dated to Imhotep, the Egyptian physician/priest/architect of about 3000 BCE (contemporaneous with the Babylonians) who was eventually deified--his temple at Memphis was eventually a medical school and hospital that used incubation sleep before the Greeks did. The patients went to dances, painted and drew. The Code of Hammurabi of about 2000 BCE deals with law and order, but also explains how to drive out demons and how to use opium and olive oil medicinally. Sumerian clay tablets have been found that are based on astrology. It is thought that the medicine of Mesopotamia was dominated by astrology, magic and priestly practice.[2] (Magic is still in use; we call it the placebo response. Psychologically, magic means action by means of the unconscious, so we do not see the mechanism of its effects.) It seems that the patient had to be reconciled with the other world of spirits and gods. The Babylonians used incantations, ritual and prayer; each physician had his own god to whom he would appeal, and he could appeal to the god who was in charge of that disease and the god of the city where the patient lived. Insanity was caused by a demon. We know that as early as 1140 BCE, the Chinese had mental hospitals. But we donít know much about treatment in those early periods. In fact, we don't know too much about what came before the Greeks, who were certainly not the first philosophers, and it seems certain that rational thought came before them. The Greeks inherited some ideas from the Minoans, travelled widely, mixed with eastern mystics, assimilated geometry from the Egyptians and a calender and astronomy from Asia Minor. Philosophy in the modern sense began with the Greeks. Why is philosophy relevant to psychology?

Some Connections Between Psychology and Philosophy

All disciplines are imprinted with their historical and cultural context, and with the ways in which they arose. To understand contemporary western psychology, it helps to understand its roots, which originated at a time when what we now call psychology was not separate from

[2]The Rx of the prescription pad is a corruption of the glyph for Jupiter, as well as meaning *recipe*, meaning receive or take.

philosophy. We have inherited many of what we consider to be our major problems and ideas from our philosophical predecessors. The old philosophers asked questions such as: What is it that allows some natural things (such as people) to *behave*, while other, inanimate, things cannot? What is everything made of? How does change occur? How we know things? How are we to think about the self, the soul or the mind? Why do we behave the way we do, and why do we have emotions? How much freedom do we have? Are body and mind different in quality? Why are we conscious? How do we know things? What is real? Are the *ways* we think different from the *things* we think about? Is life meaningful, or is it a tale told by an idiot? Is nature purposeful or random? Is there a world beyond this one, and can we grasp it? Is human nature intrinsically good, or does goodness have to be learned and enforced? What is the good life? These kind of questions are still with us, and the old arguments are continuously rehashed, which is as it should be. The answers we give are important for our theories of psychology.

The study of psychology must include some attention to philosophy, because all schools of psychology are based on philosophical assumptions about human nature. The foundations of psychology are partly in philosophy; different schools of psychology have roots in different philosophical assumptions. All psychologies have to make some of these assumptions. So that this material does not seem like just a survey of philosophy, when I discuss a philosopher I intend to discuss some of the psychology of the philosopher and the psychological implications of the philosophical ideas. There is some psychology present in all philosophy, because all philosophers and scientists eventually reach impasses in their work. They then make a subjective choice, and they make this choice based on temperament and acts of faith. Philosophers make subjective judgments about their fundamental attitudes and beliefs; psychology helps us to understand the choice that is made.

Presumably, the philosopher's personal psychology affects his or her thinking and unconscious processes[3]. Philosophers are also gripped by archetypal ideas that they humanize; Edinger (1999, *The Psyche in Antiquity*, Inner City Books) suggested that the ancient Greek philosophers were

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[3]Many philosophers dislike "psychologism," meaning, in the narrow sense, that psychology can explain logic, because they believe that logic is independent of the way the mind works. In the broad sense, this term means that psychology absorbs philosophy or is the foundation for philosophy--clearly an overstatement. At the other extreme, some philosophers think that psychology is irrelevant to philosophy. See Scharfstein, *The Philosophers*, for a fuller discussion of this issue.

not describing physical reality as much as they were projecting archetypal ideas onto the environment.

The psychologist is interested in what a particular philosopher is trying to find out, and why this question is important to him or her. We will never know fully, since there is so much we do not know about the lives of the philosophers. But we can use a psychobiographical approach here, and try to understand what is known about a theorist's life and how it relates to his or her work. Is he anxious, obsessional, using intellectual defenses to deal with anxiety, not sure if he has the right to exist, worried about his morality or self-worth, revolting against his father, or just revolting? Does his psychological life, including its problems, become transformed into his philosophical work, and if so how? What is the relationship between temperament and the way the philosopher reasons? Why are we drawn to certain thinkers and not others? Do obsessionals get caught up in details that most people ignore? Are narcissistic people interested in self-centered or grandiose philosophical ideas? Are depressive philosophers pessimistic in their outlook? Why do Plato and Aristotle think that astonishment is the source of philosophy, while Descartes thinks that its source is doubt? How do unconscious assumptions affect our theorizing?[4]

The origins of the western psyche, and of modern science, can be found in two main sources; the ancient Greeks, often referred to as the tradition of Athens, and the Hebrew Bible, or the tradition of Jerusalem. Athens represents secular knowledge, or a natural ontology,[5] while Jerusalem represents divine revelation in the Judeo-Christian sense, or metaphysical ontology.[6]

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[4] An example of an unconscious assumption: Mainstream psychology purports to study the "mind" : this rests on the Cartesian distinction between mind and body. (Although, unlike the situation in Decartesí time, today mind is not defined as a substance; it is defined as either consciousness or intentionality. More of this later.) Depth psychologists are also interested in the "soul," which takes its roots back to antiquity, to the idea of *psuche*, which is not quite equivalent to "mind" as we now think of it. For example, as well as mental states, the *psuche* was seen as the cause of self-movement in antiquity, and self-movement was seen as the criterion for life (see Everson, *Companions to Ancient Thought*, vol. 2). Early psychologist/philosophers were not Cartesian! (Some psychologists define their work as the study of behavior, and ignore the mind altogether.)

[5] Ontology means the study of reality, or things that exist, or the character of Being itself rather than particular things. What is the nature of Being-as-Being?

[6] Much western thought is concerned with trying to reconcile these two archetypal approaches. Is the Logos human reason, or is it the divine word?

For depth psychologists, Greek thought is also useful because their ideas about the world reveal archetypal ideas; they projected their inner life onto the world (so do the rest of us.) The Greeks developed a view of nature that was superior to anything that had come before. They were interested in what lay *behind* the visible world. They wanted to know what was real. They studied Nature as a whole, which they called *physis*; this Greek word (Latin *natura*) meant the natural world. This was an ambiguous term--the study of *physis* was a form of natural philosophy that included what today we call both physics and physiology. *Physis* can mean the source or origin of something, or its natural condition, its character or true nature. Or, it can mean the power of growth or the generative power of the organic world. *Physis* also means the unity and order of nature, but more the divine level of order as contrasted with human laws. Originally, philosophy simply included all knowledge--the Greeks did not separate psychology and physiology; Pythagoras was important for philosophy as well as mathematics.[7] (For Jung too, the "products of the unconscious are pure nature" [vol. 10, para. 34] meaning that psyche is not separate from nature.) This Greek study of *physis* is important (see Edinger, *The Psyche in Antiquity*, p. 17) because it means that there is a differentiation between ego and environment, or subject and object; we ask questions of nature when we do science. When we have a dream, nature asks questions of us--it works both ways.

Remember that Greek speculation is essentially Bronze age psychology, when the difference between living and dead things was a mystery. In the *Iliad* and *Odyssey*, there are no words that mean mind or personality in our sense of the word. The closest word is *psuche*, which is only partially related to what we now mean by psyche. For the Greeks, *Psuche*, or *psyche*, is partly what leaves the body at death, since the person stops breathing; but *psuche* is is not quite the mind or soul--it may leave the body in a faint, and it may survive after death, but it is not implicated in causing thoughtful behavior. (Thales suggested that since magnets attract, they may have a *psuche*.) For the Greeks of the classical or archaic period, according to Freeman (*The Greek Achievement*, Penguin Books, NY, 1999, p. 266), the *psyche* was a sort of double or mirror image of the deceased that would become stranded between this world and the world of the dead if the body was not buried properly. Socrates and Plato thought that the *psyche* existed before and after the body, and it was that part of the person that was endowed with character, reason, and knowledge of the transcendent realm.

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[7]However, the Hebrews did not have a similar concept of nature, or word like *physis*, so when the Hebrew Bible was translated into Greek, *physis* did not appear because it is not an OT concept. By the time Philo tries to synthesize Athens and Jerusalem, *physis* no longer means the original creative power of nature, but it has been taken over to mean an *agent* of divine activity. Eventually Christianity is to demonize nature or at least oppose it to spirit, until the scientific revolution studies her in depth.

For the early Greeks, there are a variety of independent faculties or even entities living in different parts of the body. *Phrenes* lives in the diaphragm and carries out rational and planned activity. *Thumos* lives in the heart, and is in charge of emotion, while *noos* allows perception of the world and cognition. These parts do not survive death; the *psuche* is without them in the underworld, so it has no speech, thought, feelings or ordinary movement. In Hades, the *psuche* looks like the body at death, complete with scars and wounds. Not every *psuche* goes to Hades; the body has to be buried properly, and this did not always happen for women, children and the elderly. (See Onians, *The Origins of European Thought.)*

As philosophy was developing in Greece, so too were medicine, geometry, navigation, and medicine. The development of technology was important because it allowed people to think of reality in terms of natural laws instead of the gods arguing with each other. Gradually specialization occurred, until by the time of the later Alexandrian period (Alexander died in 323 BCE) the different branches of philosophy have their own names. The Greeks accumulated a mass of physiological and non-physiological observations about their concept of the soul.

Tradition has it that, about the 8th century BCE, poets like Homer and Hesiod explored life's questions, and human thoughts, feelings and behavior, through the use of poetry, myth and story, rather than by means of rational discourse and analysis. Myths were used to explain reality; natural forces were portrayed as gods, to explain what was happening. The myth makers and epic poets seemed to think that people were the center of everything--the world was for people to have adventures. Myths did not try to explain what reality is *made* of--they were more concerned with explaining how reality *affects* people. This attitude contrasted with the approach of the early philosophers, who did not think that people were the be all and end all of the world; they became interested in what the world is made of and how it works. (Although some people think that philosophy is itself a kind of mythology.) The Greek. philosophers were not content to explain everything in terms of the actions of the gods. They wanted to explain reality in more general terms--unlike the myth makers, the philosophers realized that existence (ontology) could be independent of human action. The Greek philosophers begin to critically evaluate thoughts and feelings, as in "know thyself," the famous inscription at the Temple of Delphi. This tradition of systematic criticism allows the progression of thought.

Traditional approaches tell us that there was a gradual rise of rational consciousness as the early philosophers rejected the metaphysical cosmologies of the myth makers and tried to explain the world rationally. Their main contribution was to look for universal principles to explain nature rather than accepting mythic accounts of creation. The Greek contribution is important because

the search for secular physical knowledge leads all the way to the scientific revolution. The Greeks were early psychologists in the sense that they were interested in *behavior*. Socrates didn't care about how the world happened according to mythology, but about how we think about ourselves--he asked questions such as: what do we know, what is virtue, and what is the good life? Traditional scholarship has it that, in the West, Socrates began systematic inquiry into the human condition. Plato continued Socratic thinking, and Aristotle further systematically explored many areas of knowledge, until that period collapsed with the fall of Rome in the 5th century AD. We therefore begin in Greece, since many of their questions are still our questions, bearing in mind that the Greeks were not the first philosophers--the Hindu texts go back much earlier, and so do those of other complex civilizations.

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We should not romanticize ancient Greece. At the time of Homer (~900-800 BCE), as described in the *Iliad* and the *Odyssey*, warfare was cruel, slavery was popular (a third of the population were slaves; only a small percentage of the people were citizens, for which privilege one had to have 2 Athenian parents), women had few civil rights and wars were fought over them, since they were property and prizes. To gain vengeance on an enemy, one raped and enslaved his wife. Piracy was common, and virtue was about wealth and being of aristocratic birth--you could not be poor and virtuous. Homeric epics show how reason is affected by anger, leading to tragedy. But, the Homeric concept of virtue meant that it could only be achieved by a few people who attained glory in battle. This excluded women, children, the poor, and slaves. The idea that virtue and the good life could only be attained by a lucky few persisted until the Hellenistic age (350-301 BCE). There was not much sense of individual rights, and not much recourse if you had been wronged. Early Athenians were rapacious and imperialistic, warfare was very important to them and the exploits of their heroes enhanced their self-esteem. The Greeks created the notion that outsiders were ìbarbarians,î thereby legitimizing the pernicious idea that some cultures are superior to others, an attitude that led to European colonialism. Problems of morality, justice and virtue did not become important until Plato and Socrates; Plato realized that Homeric heroes set a bad example for how to behave.

By the 6th century BCE the Greek city states were thriving and they had made real contributions in literature, architecture, and civics. However, the Greek philosophers were not too interested in the masses; they had a cultish way of life based on their teachings, which had a religious flavor, often continuing earlier mystical traditions. Philosophy was only done by an Èlite, privileged group; democracy in our modern sense would have been a dirty word to them--this meant rule by the great unwashed. So there is a paradox here; Greek cultural achievements are based on slavery and the devaluing of women and others. Does this mean we have to disgard the

whole tradition?[8] It seem preferable to simply acknowledge its defficiencies while we understand its contribution to the western world view.

An Outline of Greek Thinking

The Pre-Socratics

Tradition begins with the "pre-Socratics," although clearly Socrates was not the first real thinker. Presocratics are divided into various schools. An important group developed in Ionia, which is in today's western Turkey, across the Aegean from Athens. Ionian thinkers are naturalistic; that is, they look to the physical environment for the causes of life, in contrast to the biological orientation that looks for the cause of life in the workings of the body (eg, Hippocrates). The main names are Thales, Anaximander and Anaximenes, who lived in Miletus in the 6th cent. BCE, which was a melting pot of East and West, a cosmopolitan and commercial center. None of their original material survived, so we only know about them from later Greek and Roman summaries, which may not be reliable. They wanted to find a single principle by which to explain the world--this was a new kind of question, and it is still going on--witness the recent interest in string theory in physics. There has always been a quest for first principles.

It is fascinating to us that they thought there was a single stuff behind the multiplicity that they saw. This principle they called the *arche*. For the Milesians, this important word means a kind of original or first substance, the *prima materia* of the later alchemists, which Jung thought represents the primordial condition of the psyche before they started to work on it. The idea of the *arche* may be a projection of the sense of the unity of the Self, according to Edinger. The pre-Socratics were monists--they thought that everything was made of a single stuff, but they argued about what this was (why couldn't things be made of different types of stuff?).

Philosophy is said to begin with Thales (c. 625-545 BCE), who is given the credit for starting the whole enterprise. (He lived at the time of the capture of Jerusalem by the Babylonians--585 BCE, about the time of Jeremiah and Ezekiel, when the Hebrews were exiled.) Thales thought that the world rests on water, and water, or *hydor*, is the *arche*, the unifying principle or primal stuff of all things. We do not know what he meant by this, but perhaps it had to do with the ubiquity of water, or seeing water change states. (It is not clear if this is just another form of mythology; Edinger would say that psychologically speaking, he is equating the psyche with

[8]Future generations may look back on our culture and see it as based on inequality, racism, cruelty to animals, and the exploitation of underprivileged people.

water). Thales moves away from a mythological or spiritual interpretation of the world towards a naturalistic explanation. This means the world can be understood in ordinary terms without the intervention of the anthropomorphic gods of mythology, using the observation of natural processes. Note that while the early Greeks think about what everything is made of, they don't speculate much about creation or a creator.

Thales did not start things in a vacuum; he visited Egypt, and he may have heard of Egyptian and Babylonian creation myths that describe water as the first principle.

Anaximander, around 546 BCE, has an early articulation of the modern idea of matter as a substrate for everything that has properties and qualities; he said that the cosmos must rest within a larger entity, which is the Infininite or Boundless, the *apeiron*, which has existed before all else, and into which all else will eventually dissolve. (Edingerís move here is that psychologically, this is a recognition that the psyche is infinite.) According to Anaximander, in the beginning the *aperion* was whole, not in pieces, but it contained motion, which caused it to break up, and slowly pieces fell off making all the things in the world.[9] The opposites, such as hot and cold, wet and dry, separated out of the Boundless to form the world. Eventually he thought that all the pieces would be brought back together again and the original unity would be regained. This primal stuff could not be known or experienced, but it converts into everything in the world. He suggested that people arose from fish, and that there are natural laws that exert themselves in the world that balance different elements--recognizably scientific ideas.

Anaximenes said that air (*pneuma*) is the stuff of which everything was made--a stone is compressed air--we breath air, so the air turns into bodies. The soul is very rarefied air, and it holds the body together. This is an early connection of psyche, spirit, breath and life, and the idea that spiritual entities live in the air.

What matters here is the attempt to use a combination of observation and reason to understand a particular question. Some people say that the Milesians were materialists--that they did not believe in anything spiritual underlying matter, or that matter arose from anything spiritual; these writers believe that this is an early attempt to reduce mind to the physical world, which begins a long tradition. But some authors point out that for the early Greeks the original stuff was actually divine.

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[9]We could think of this as the individual psyches being fragments of the Self.

Heraclitus (about 500BCE) lived in Ephesus, where there was a famous temple of Diana. He was one of Jung's favorite early philosophers. Heraclitus was a solitary, aristocratic character who left a series of short statements that are difficult to interprete. For him, change is the fundamental characteristic of the universe; nothing is stable or permanent; change is all that is. All things flow; everything is in a state of becoming, we cannot step twice into the same river. Strife is the father of all things; harmony itself is the result of tension--witness the analogy of the lyre or bow; the strings are in tension, but the instrument is harmonious as a result. Similarly, the cosmos is harmonious because its elements are in continuous strife. He has an idea that sounds reminiscent of modern concepts of matter and energy; the world is unified, entirely one, but this is actually unity in diversity--all the differences we see make up an integrated world because of the action of fire. He thought that the ultimate stuff (*arche*) was fire, and the soul is rarefied fire--fire is the instrument of change: it unites everything and breaks everything down. This happens constantly, so the world is ever-changing--it constantly kindles and goes out. Heraclitus thought that underlying all the diversity caused by fire was a universal principle or law that kept fire under control and made it operate rationally--this rational principle is the Logos (is this the same Logos as in the biblical Jn. 1?). Heraclitus thought of the Logos as a kind of impersonal unifying intelligence or set of relationships that regulates the world. Heraclitusís early idea of dynamic equilibrium is also seen in his idea of *enantiodromia*; things change into their opposites, day into night, water into air, and so on.[10] This attempt to synthesize the opposites is a persistent strand of philosophy--it represents the drive for unity, or the idea that many things that seem to be warring opposites are actually part of a larger unity.[11] For Heraclitus, truth is relative, and depends on the point of view of the observer--perhaps it can never be found. (So you thought postmodernism was new?).

While Heroclitus was saying we cannot step into the same river twice, the Eleatics[12] were saying that change is impossible--nothing can change; what we see as change and motion are just the effect of our senses distorting our observation. Contrary to Heraclitus's focus on constant change and becoming, they emphasized the underlying permanence of things--the universe is an

[10]Jung picked up this idea and used it psychologically.

[11]This idea is also important to Jung's thinking.

[12]From Elea in S. Italy--this school was founded by Xenophanes,~540 BC. Xenophanes assaulted unsophisticated Greek religion that thought of the gods in human form; he said that these gods are just anthropomorphic constructions; if animals had gods they would construct them in *their* own image! Presentiments of later critiques of religion by Hulme and Freud are found here. Xenophanes thought that there is a supreme divine force above and apart from gods and mortals, rather than thinking of the gods as a part of things, which is true of the *Nous* of Anaxagoras.

unchangeable solid mass; only the parts change, not the whole--there is just the appearance of change. There is an essential unity to creation, a world principle--not necessarily the same as the creator God of the Hebrews, who had been known for 500 years by this time.

Parmenides of Elea thought that reality was one, indivisible, perfect, eternal, and unchanging. The multiplicity that we perceive is an illusion--things do not actually change or move, even though they seem to, because there are no separate things--all is simply eternal Being, and Being cannot change because it is one substance, what-is. Apparent change, or becoming, is an illusion. His argument is that the idea of becoming, or coming-to-be, presupposes the possibility of not-being, and since we cannot even conceive of not-being, becoming is impossible. This conclusion was based on reason, and Parmenides says that he was initiated into the world of reason by the Goddess. For him, reason is more reliable than appearances. (This is one origin of the old being-becoming argument that became reactivated in existentialism.) Parmenides is a spokesman for Being, which simply is beyond change. (This idea is later developed by Plato into the idea of eternal Forms in a realm of pure Being.) By contrast, advocates of becoming deny that there is a realm of pure being, since the only constant in the world is change--things are always becoming something else--here we think of Heraclitus. Eventually, the importance of becoming won, thanks to Darwin's theory of evolution, and the fact that it's hard to know exactly where a sub-atomic particle is.

The debate between being and becoming sounds metaphysical, but it has epistemological implications, namely a difference between appearance and reality. For believers in being, change is just appearance, because absolute Truth or Reality is being itself. If you believe that we know Truth as being itself, then the senses that seem to detect change are not reliable, and we have to rely on logic instead--this is called rationalism. The opposite argument is that the way we know the truth is only through the senses; this is called empiricism, which says that reason just leads to fantasy; reliable truth is only found in what we can sense.

Parmenidesí follower Zeno developed four famous paradoxes. One of them says that an arrow cannot move after being shot, because it is always in a place that is equal to itself; since motion takes time, the place at which the arrow is, is not moving, and so it must always be at rest in that place. Similarly the runner can never catch up with the tortoise, because when he gets to where the tortoise was, it has moved on; however fast the runner is, the tortoise has always moved on, so creating another gap. Was Zeno just making fun of Parmenides, or was he telling us that reason and observation may conflict? Or that, if we break up reality into bits, we create paradoxes for ourselves?

Eleatics are important because they begin a tradition of monism, and also they develop logical arguments, or attempts at metaphysical proofs.

One problem the early Greeks had was to explain how the outside world enters inside us, to produce our experience of the world. They (Empedocles 450 BCE) assumed that there must be channels or passages for the world to travel inward, that were called the paths or pores. The Greeks had a doctrine of atoms (Democritus, 420 BCE), and the body was imagined as bombarded with particles of matter-- since the pores are of different sizes they act as sieves for different size particles. An object emits a kind of effluent that is a copy of itself, and this copy enters the ducts into the body and is then carried by the blood to the mind, which is in the heart. The sense organs are tubes that lead inwards. The heart mixes these particles and this agitation causes thinking--an early attempt to form a physical basis for mental activity. This came to be called the copy theory of cognition; we create mental representations of objects we perceive, that we then think about. This is an empirical approach to perception, although the rationalist can argue that sensory information is not all that valid, and the mind is necessary for memory, thought, and what we do with perception. Empedocles has a realist view of perception--what you see is a copy of what the thing is--rather than the idea that we radically modify our perception of the world, so that we construct an object rather than just copy it. (Empedocles also believed in the transmigration of souls.) Nerves were not discovered until about 300 BCE by Herophilus and Erasistratus, who discovered that nerves were agents of sensation--this idea was developed by Galen (200 CE), da Vinci (1527 CE) and Vesalius (1543 CE).

Empedocles (about 450 BCE) was a legendary figure as well as a real one. Empedocles was interested in this permanence-change argument, and the problem of how to account for the great diversity of things in the world. He compromised by suggesting that the universe is composed of four elements or roots of things--earth, air, fire and water.[13] There are many particles of each element that combine in various ways to form the world; as things decay the elements separate, then re-mingle. The finite number of the elements themselves does not change--here he agrees with Parmenides--but they produce infinite change by mingling and separating, which is caused by two dynamic principles, love and hate (*philia* and *neikos*). Love brings things together, hate or strife breaks them apart. This happens in a cyclical process. Now their are four *arche* rather than one. Here is an early idea of the quarternity, or the fourfold nature of reality.

[13]The four element theory lasted a long time, and evolved into the four humors, whose balance within the body defined temperament and health.

But Anaxagoras (a contemporary of Parmenides; c. 488-428 BCE Athens) was not happy with this conclusion--he said there must be more than four elements--perhaps there are millions of them. Flesh was the result of millions of flesh elements coming together in one piece, while bone is made of bits of bone elements. He believed that everything contains a little of everything else, so a human sperm would contain all the elements of the body. He was banished from Athens for being a trouble maker; if people are all made up of the same stuff, what distinguishes a king from a slave? He also had the temerity to suggest that the sun is a huge ball of hot metal, and not a god. This idea of things made of millions of bits paved the way for the atomists, but whereas Anaxagoras thought we could keep dividing particles for ever, into smaller and smaller bits, the atomists (Leucippus and Democritus) disagreed. They thought that atoms are indivisible, and made of the same material that does not change (like Parmenides), not different types of stuff, as Anaxagora had said. The atoms have different shapes and sizes, and they unite in different ways and different numbers. Change is a matter of the mingling and separating of atoms, but the atoms never change--they are eternal, even though things seem to change in the world of experience. This solution reconciles the being-becoming problem.

Leucippus of Miletus began the idea that indivisible atoms are the basis of everything. For he and Democritus (420 BCE) the world is made of atoms whirling in the void; you can cut an apple because there are spaces between the atoms. This idea did not develop until Dalton in 1800 AD, but the early atomists were speculating, not observing. Unlike modern physicists they had no data--was the idea pure luck, intuition, coincidence, or gnosis? They thought that the soul was composed of the finest, purest, most perfectly spherical atoms, which are scattered throughout the body; each soul atom is placed between two other atoms. Because the soul (*psuche*) produces movement, it must be constituted by the most mobile atoms. Since the sphere is the most mobile shape, this must be the shape of the particles of fire and thought. We breath soul atoms in and out, and when we die the soul atoms are scattered throughout the universe. They then enter other bodies, because they cannot be destroyed, just rearranged. Here is an early conservation of matter theory.

Anaxagoras believed that the world was initially chaotic, but the world-mind, Reason, or *Nous*, (pronounced ìnooseî) which is a kind of transcendent Mind, rules the world and gives it order. *Nous* brought order to the original chaos and differentiated everything into its elements--fire, air, water, earth. Nous is infinite and omniscient. *Nous* could be the same as our consciousness, or it could be an early idea of the Self. But some people say that Anaxagoras speaks of it as a special type of material substance, different from ordinary matter; however he is not a Cartesian, so he

did not make a matter-spirit dichotomy. *Nous* is the thinnest of things, the substrate of creation, infinite, self-ruled. He postulates rationality and intention to *Nous*--it knows all things and it controls everything that has life. The *Nous* permeates all of life, and is the basis of life--it determines human nature.

As well as naturalists, biologists and humanists, there have always been people who take a mathematical orientation to life. Pythagoras is a semi-legendary personality of the late 6th cent. BCE. He believed that nature was written in the language of mathematics. His followers seem to have experienced numbers as numinous; here the *arche* appears as number. This corresponds to Jung's idea (in CW 8, para. 870) that number is an archetype of order that has become conscious.

Pythagoras had a cultic group around him, complete with initiation rituals and devotion to the teacher. Pythagorians were an ascetic group who wanted to purify themselves from the world's imperfections. Many of their discoveries were kept secret because they were felt to be sacred. For Pythagoras, mathematics was the revelation of a divine order in nature. It is said that when he discovered his famous theorem he sacrificed to the gods in gratitude for this revelation. For these thinkers, the underlying principle of the world is number--everything is a manifestation of number--the world is arranged in a pattern based on the numbers 1-4. Number 1 is a point; 2 is a line; 3 defines a surface or plane, and 4 gives three dimensions, as the surfaces come together to form a solid body. Everything in nature could be given a number.[14] Nature reflects and obeys the laws of number--cosmic order can be expressed numerically. This is a mathematical concept of the world--the essence of things consists in the numbers that express them; in fact, the numbers themselves are essences. Pythagoras talked about cosmic harmony; he conceived of an ordered universe, whose order is based on the numerical relations between things--number is the basis of the relationship that connects things. When things are harmonious there are ratios of whole numbers involved--eg, halving the length of a lyre string produces a note one octave higher; other ratios of string length to tone were enjoyable, so there is a relationship between beauty and number. Pythagoras believed that the stars are arranged in such a way that they make music when they move--the music of the spheres. Some people believe that, to the Greeks, order meant beauty--things are meaningful because of their beauty (contrast this with Roman order,

[14]Psychology is still obsessed with numbers--Thorndike said that "whatever exists must exist in some quantity, and therefore can be measured." But does it matter if we can measure something? The most important things are often hard to measure, and their measure is not the most important thing about them. The importance of the mathematical orientation is that it offers abstractions about the physical world that go beyond matter. There is a world of mathematical relationships that we can reason but not get at through the senses. This becomes a major philosophical theme.

which is built on conquering, discipline, and control.). Pythagoras was a typical thinking type; he used systematic, deductive reasoning--he would start with an axiom that is obvious, then proceed to a conclusion that is not obvious. He is credited with the discovery of the idea of mathematical proof itself.

Pythagoras said that the soul is the numerical harmony of the body--it arises from the world soul, which is the harmony of the cosmos. He believed that there is an immortal soul that is the life-giving principle of the body; after death the soul goes to Hades to be purified and then returns to this life in a series of transmigrations. He was a follower and developer of the Orphic school.[15] According to this tradition, the soul transmigrates from one body to another. The Pythagoreans were very spiritually oriented.

A big change occurs with the Sophists (a Greek word meaning expert), of the early 5th cent. BCE. Instead of looking for the Big Truth about the universe, the Sophists were interested in humanity itself--how we behave, rather than what is out there. They are interested in the mind that is trying to describe the world, because they are skeptical about our ability to explain the universe itself. There had already been a hundred years of arguments about the nature of things, with contradictory conclusions--Heraclitus vs. Parmenides, Anaxagoras vs. the Atomists, and so on. Because the Sophists doubted that we could discover the real truth about the world, they tried to find ways to get along in the world without certainty. They focused on how to speak well, win debates, convince people, be successful, and on whatever is politically useful. This ability to convince was important in Athens, because the key to success was rhetoric, or the art of persuasion, especially in political life, where it was important to make speeches in the assembly and argue law.

Protagoras, a wondering scholar, (~450 BCE) questioned the existence of the gods, and said that "man is the measure of all things." He has a preference for the way things are perceived instead

[15]Orpheus was the legendary founder of a mystical sect. He lived in Thrace in post Homeric times [Homer and Hesiod were 8th century BCE], but pre-classical times. He was an ascetic reformer within the sect of Dionysus--he tamed the rites, rejected the undisciplined elements and imposed an ethic of purity and non -injury. His were

similar ethics to those of the early Christians, and similar to the theology of St. John the divine. Orpheus was a demi-God who performed miracles, descended to the underworld, and was raised to heaven by his divine father Apollo. He was a great musician, and could charm animals and even the inhabitants of the underworld--his music gave him power. He was the pre-eminent saint of the early world--his was more the path of knowledge than the path of love, while Heracles is the path of the warrior. In the last centuries BCE, there was a Neo-Pythagorian revival with the development of the Orphic hymns, a cosmogony and Mysteries; Plutarch was an initiate, and maybe Saul of Tarsus. The Orphics thought that life on this earth is an expiation for crimes or impurities of previous lives; they were dedicated to the idea of purification of the soul, hence their extreme asceticism.

of speculating about what might be an underlying reality; for him, sense information is the only source of knowledge. Whatever is the absolute reality, the world we experience is what matters--this is usable truth, which is relative to the observer. (Technically, this is called relativistic empiricism.) For the Sophists, all ethics are relative, depending on the situation--no ethical law could apply to all situations. Only useful opinion matters--we assign truth, it's not absolute (again; how modern is postmodernism?). Sophists deny first principles; we must just investigate how life is, operationally. The study of life is an end in itself, so that there is no need to find some transcendent ultimate principle, such as God. The Sophists were skeptics (nothing can be known for certain) and eclectics. Gorgias (*On Nature*) said that nothing exists except what we perceive, and if it did, no one could know it, and if they did know it they could not communicate it to another person. Therefore, just succeed in life. If they exist, the gods are unknowable to us, and there is no divine truth to which we are subject; we decide how to live.

Instead of relying on abstract *deduction*[16] from general principles, they preferred *induction* using observable data based on specific observation. They were utilitarians; they developed a bad reputation because they sometimes became greedy and charged too much for their teaching. (Plato ridiculed them). It was thought that they would allow anything if it worked for you and made you happy, and they had no values except success. But they made some important advances; they cautioned against speculation beyond what can be observed. Although they were usually relativists, they were flexible; Protagoras thought that human nature was incomplete, and had to be civilized, so he advised following the local laws, morals and customs, because it makes sense to do so. We must curb our wishes in order to survive in society (shades of Freudís *Civilization and its Discontents*). Thrasymachus said that social order is imposed by the powerful--they decide what is fair and just--and those who make the rules tend to maintain their advantageous position. Prodicus suggested that religion is a human creation; we make gods out of things like the sun and moon that are useful to us. Critias said that rulers institute gods as a way of keeping their subjects in check (Freeman, p. 261).

The Sophists were a disturbing influence, because they encouraged the questioning of traditional values, which were handed down through an established form of education. Sophists tended to spread uncertainty about values and morals. At the time, Athens had fared badly in war and suffered from a plague, and traditionalists thought that the gods were angry with the city because of the Sophists who ridiculed them. In this climate of turmoil, Socrates tried to find an

[16]Deduction means determining what is true based on what we already *know* to be true axiomatically; deduction assumes that the axiom is true--eg geometry deduces truth from basic principles. Induction means drawing general conclusions from particular evidence.

alternative, more secure foundation for knowledge.

Socrates(469-399 BCE)

Socrates wrote nothing himself, so that we know about him from Plato, to the extent that itís hard to know what is Socrates and what is Plato. Socrates was shabby and ugly, but extremely charismatic. He liked to spend the day arguing with anyone who would argue with him, challenging them with their inability to answer questions such as ìwhat is virtue?î He had a group of young people around him who idealized him, while the rest of the public thought he was a pest because he questioned their values and religious beliefs. In contrast to the concerns of the earlier philosophers about understanding the natural world, Socrates was most concerned with teaching people how to be virtuous; he taught practical ethics and morality, the discovery of the just, the true and the good--he wanted universal definitions of them. He wanted to know what the good life was.

Socrates was a bitter opponent of the Sophists because he felt they would teach people even though they professed not to have knowledge, so they might be teaching wrongly--the blind leading the blind. He was not convinced by their argument that success was the main thing in life. He believed that it is not enough to be able to convince people, unless what you convince them of is correct--or, your skills at persuasion could be a disaster. Information is not as important as wisdom about right and wrong--knowledge is virtue. Socrates was a great humanist; he said that we can only understand life if we understand the uniqueness of the individual. We need transcendent principles, general truths, or morals would be undermined. He was very interested in the self and our relationship to reality, and our place in nature; he believed that our humanity was due to an immortal life-giving soul.

His method is called dialectic. He asks a series of questions that are intended to lead step by step to the answer. He asks a question that leads from one example to general conclusions--eg, he asks what justice, courage or virtue means; people think they know, but he keeps asking questions until his interlocutors have to admit that they do not know what it is. Then he would ask more and more questions until they agreed on a binding definition--he thought of himself as midwife to the truth. Socrates is looking for truth in what is eternal, rather than what is in the material world, so he is somewhat skeptical about the reliability of perception. He seems to look for an archetypal definition of particular qualities that contains all possible examples of his subject. (Ask yourself: how *do* we know what is beautiful or just? Is this knowledge learned, or innate?) This theory supposes that the knowledge is already in us, but has to be brought out--it is

the opposite of knowledge based on learning and perception.[17] To insist on knowledge being articulated is to insist on a theory that justifies it, a theory that can be articulated. This sets it apart from approaches to knowledge via intuition, or without conscious thought.

Socratesí intention was to make people virtuous--he felt that we know what virtue is, but false beliefs from our upbringing can mask this knowledge and make us do evil. Once a person knows what virtue truly is, that knowledge would make the person good automatically. (This is an implausible idea, since knowing what is right may or may not make us do it.) The person of true virtue is moved by his own understanding, and does not have to depend on the opinion of others. Socrates says he has an inner *daimon*, which warns him when he is about to do something wrong. This is a transpersonal level of the psyche that operates at the margin of consciousness.

For Socrates, the soul is the superior part of us that allows us to find moral values; within the soul lies the impulse to follow the good when we find it. Because of our innate knowledge, we must have a soul---for him soul is mind, and is separable from the body; mind persists after death. Each person has a soul that rules the body, and by assisting people to become wise he would enable them to develop their souls. This begins a spiritual ethic, in the sense of turning to the meaning of life. This idea also pre-figures the Christian dualism of mind and matter.

His main idea was the proper use of reason --there were many theories of how to live and what was true in the city states around Athens, so they were looking for answers. It is his dialectic method that makes him the "grandfather of philosophy." He is said to be the originator of critical reason, and he is said to bring about the fruition of rational consciousness. Neither of these claims is really true. But he did want people to examine their lives--he said that the unexamined life is not worth living--and he wanted to disturb complacency, so it is not surprising that he made enemies. In 399 BCE he was charged with corrupting the youth of the city and undermining faith in the gods, and condemned to death. Presumably the conservatives did not like his independent thinking about the nature of virtue, and his free thinking about religion combined with his personal *daimon* may have threatened the religious authorities. (Much later, when Christians discovered Plato, the story of Socrates's life seemed to resonate with the life of Christ, who also taught the truth and was killed by disbelievers). Socrates left no personal writing--he preferred talking.

[17] In 1912, Jung wrote that psychotherapy is a form of Socratic maieutics (4, ß519)--we bring out an innate truth of the personality.

Plato (427-347 BCE)

Plato is important to us for several reasons. He was one of the first philosophers to think about how knowledge is possible, and how we may justify what we know. (This endeavor later evolves into cognitive psychology.) Modern science justifies its claims to knowledge based on repeated observations, but Plato realized that a conclusion based on present observation may be corrected by new data, and he did not like the idea that truth could be so transient. Plato wanted to find a Truth that was eternal, transcendental. Plato gives us the idea of a spiritual order of things, of unseen principles underlying a rational world.

Plato was born into an aristocratic Athenian family, with all the Èlitism that brought.[18] Plato was one of a group of people who gathered round Socrates after the terrible Peloponnesian War (431-404 BCE) in which Athens lost to Sparta. There was then a revolution against the leaders whose mistakes had caused the defeat, and power was usurped by a group called the Thirty Tyrants. Their excesses led to a reaction that restored democracy in 403, and this was the government that put Socrates to death for questioning their democratic pieties. The whole episode disillusioned Plato about politics; it seemed that the state was a failure. Plato was intensely interested in politics, but stayed aloof from the Athenian Senate.[19] Plato retained Socrates' faith in reason and rational inquiry. Early Plato mostly expounds Socrates' ideas, but later he expresses his own ideas. Here is an example of his intuitive wisdom: "Even in good men, there is a lawless wild-beast nature, which peers out in sleep" (vol. 1 of the Jowett translation, p. 830, 848.) This is an early idea of the unconscious.

Plato was Socrates' pupil from the age of about 20, when Socrates was 60. We don't know much about Platoís childhood. He is said to have been homosexual. According to Aristotle, Plato was melancholic, cautious or timid. He wrote some tragedies as a young man, but burned them instead of publishing them--he had some kind of inhibition about being seen. He did not want his views on God to get through to the masses, perhaps because he was afraid of being too

[18]It is estimated that Athens had a population of about 400,000 people, of whom 250,000 were slaves. In the unrest that followed the 30 year war with Sparta, two political parties competed for power. Socrates was the intellectual leader of the party that lost power, which is another reason he was imprisoned and sentenced to death. After the death of Socrates, Platoís own life was in danger, and he left Athens; there is speculation that he went to Egypt and various wisdom schools, even as far as India. His whereabouts for 12 years are not known.

[19]There is a story of uncertain validity that Plato tried to intervene politically with the tyrannical Dionysius, but only succeeded in offending him with his criticism of the regime, which nearly got Plato sold into slavery. He tried again 20 years later, with the son of Dionysius, of the same name; this too was unsuccessful and he was imprisoned. 5 years later he tried again, and got himself into more danger; he was apparently not a statesman. It seems that he had ideas but could not implement them--perhaps he had good N and T, but weak S; perhaps thinking took the place of living.

controversial (he told a corespondent to burn his letters about the nature of divinity), so externally he adhered to the traditional religion.

After the death of Socrates, Plato travelled widely. Eventually he settled in Athens and opened his Academy in 387 BCE, where he preserved Socratesí teachings--this became the intellectual center of Greece. At his Academy (an early university) he taught a wide variety of subjects, just for the sake of wisdom itself, putting words into the mouth of Socrates. Much of the interest of his circle was about the good life, politics, and ethics. Mathematics was very important to him; he felt that mathematics would develop logical thinking. Plato believed that learning for its own sake could produce wisdom and lead one to be virtuous and happy. Like Socrates, Plato wanted to educate people for a life of virtue, and he also believed that knowledge is the starting point for virtue, so a major question for him is: what is knowledge and how do we acquire it? Plato attempts to answer this question in his *Dialogues*, in which Socrates is often the main character.

Plato is skeptical about direct sensory knowledge of the world, which gives us a further clue about his intutitive temperament. He believed that sensory data are unreliable, so he rejects the Sophists' doctrine of the primacy of sense data. For Plato, real knowledge consists in apprehending the *unchanging* aspects of the world, or the permanent principles that underly reality. These are the Ideas or Forms, in Greek *eidos*, which comes from the verb *eido*, to see or know. His theory of Ideas or Forms is as follows. The word "horse" refers to any horse--but somewhere there is an Ideal Horse that is outside space and time; the Idea is real, the particular is only one instance of the Ideal, which is horse-ness.[20] There is one perfect Idea of the oak, but many actual oak trees, which are imperfect objects that reflect the perfect Idea. These immaterial Ideas are the perfect prototypes of earthly forms--this theory is called metaphysical realism, which implies a world of immaterial existence. Things themselves are not eternal in our world, but the concept of a thing, or what it has in common with others of its type, is eternal. (See Eduard Zeller, *Outlines of the History of Greek Philosophy*, p. 147).

For Plato, there is a big difference between appearances and reality, and only our souls have knowledge of the real world of Ideas or Forms. This is a typical intuitive idea; an object points beyond itself to some other possibility. (This is a precursor of the idea that the symbol points beyond itself to an unknowable archetype.) The Forms have always existed, they are perfect, not created, independent of all things, and not influenced by change--they are eternal patterns. The

[20]We might call this the archetype of the horse, except that Platoís Ideas are more cosmic than psychological. But there is a tantalizing similarity.

idea seems to be that there must be some kind of permanent world behind the Heraclitan world of constant change; we could speculate about the implications of this idea for Platoís personal psychology.

Mathematics provides a good example of Platoís Forms; mathematical relationships exist independently of our thinking--we just discover them.[21] The form and properties of a square are fixed once and for all, no matter how many actual squares we see come and go. They all participate in the form of squareness; this reality is not the same as their concrete reality.[22] Platonists fall back on the truth of mathematics; the angles of a triangle add up to180 degrees, no matter what triangle we consider; all circles are described by pr^2, and so on. If this kind of truth did not exist, we could not think. (It can be argued that we have an image of the truth of the world in us because we *are* the world, and we have evolved our perceptual systems in the context of the way the world is.)

According to Plato, the Ideas are impressed onto matter, as the sculpture impresses his idea onto clay. A sculptor can make many copies of this Idea without changing it. Our world is created like this--by the impression of the world of ideas onto matter by the Demiurge, who is the architect (*Timaeus*). The Demiurge is good, and wants the world to be good and in order, so we have to order ourselves. Things are beautiful because they participate in the Form Beauty (*Phaedo*), which is eternal and absolute. The world of Ideas is the real world, and what we experience is a copy that emanates from the world of Ideas. Imperfections occur in this world because the impression is not perfect, because matter is imperfect, so that the Idea is distorted to an extent. The Forms are objective essences separate from physical things (Phaedo)--they are spiritual, not corporeal--they can only be known through *noesis*, or abstract, pure reasoning--they never decay, unlike their copies in this world. The ideal world thinks this world into being. The highest Form is the Good or the One, which gives being to all other Forms--it is the source of all reality, truth and goodness. Crucially, for Plato, we can know what is good using our reason. Goodness is equivalent to reason. Whereas Socrates had tried to find the nature of virtue by asking about the common characteristics of many instances of virtue, for Plato Virtue existed as a real entity, as the Form of Virtue, that is invisible to our ordinary senses but which can be grasped by the *psyche*, using its power of reasoning. There is something about beauty that is not

[21]Often we do not discover the relation of a new mathematical idea to physical reality until much later--Einstein borrowed some off-the-shelf mathematics to help him with his theory of relativity; until he did so, these mathematical ideas had no practical application.

[22]Note that this idea came to be rejected later, when science decided that only a few aspects of an object are actually *in* the object, such as mass and number; qualities such as beauty were then thought to be in the mind of the beholder, not in any kind of outside reality. But this attitude leads to its own problem of knowledge, to be discussed later.

fully in the beautiful object, or about goodness that is not in every act of goodness. Behind perceptual knowledge is knowledge of universals or ideals. If I want to make a pot, I have to have a idea of pot-ness, according to the metaphysical realist (here this means one who believes in transcendental Real forms); by contrast, the nominalist says no, there are only individual pots.[23] An important implication of the idea that there is a Form of Beauty is that Beauty is not just in the eye of the beholder, not just a matter of subjective taste. A work of art is beautiful because it participates in the Form of Beauty.

Through the senses we do not obtain real knowledge, because the senses do not give us knowledge of the Forms or universals, so we can only say how things seem to us, what they appear to be. As an allegory of the human condition, Plato used the myth of the cave to describe how each soul is trapped in a body, forced to use its eyes to see imperfect copies of the Forms. The allegory of the cave (*Republic*) describes people who live in an underground cave that has a mouth open to the light. They have been chained from childhood so they cannot move, and they can only look forwards. Behind them is a fire, and between the fire and their backs are people who walk about carrying things. These people only see shadows that the fire throws on the wall--what they believe is the truth is only the shadow or image (*eikones*) of the what is being carried, not the things themselves. One slave breaks free from his chains, realizes that the things being carried are more real than their shadows, and discovers that whata he thought were horses and cows are actually images of the real essences of horses and cows. The function of education is to break free of the cave, to see through appearances, which are the result of sense information. It is as if we are living in virtual reality. We have to escape the jail of the cave, which is the world as we see it, or the world of visible things, which are just copies, and turn to the world of what he calls ìintelligible knowledgeî to find the Forms that are within us, to gain real knowledge.[24] The cave is our cultural conditioning and conventional beliefs. Knowledge is the path to truth, although not many take the path, according to Plato. Here we see that Plato realized that knowledge is not just a matter of passive observation--we interpret the data of our senses, and we apply concepts using reason. We must analyze exprerience with reason; this is the doctrine of rationalism, which distrusts knowledge that is simply obtained perceptually.

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[23]Some people are reminded here of gestalt psychology, which tries to see the general realities of the mind that lie beyond processes of association and memory--it assumes that there are abstract principles of recognition in the mind.

[24]The concept of the Forms reconciles the problem of Being and Becoming referred to earlier. Forms belong to Being; they are eternal, but their copies belong this world of Becoming.

For Plato, the knowledge of the Forms exists in the soul before we are born, and can be remembered by a process of *anamnesis*, which is a process of recollection (*Phaedo*.) Since the knowledge of these Forms or universals is already in our minds, sense experience, and philosophical training, just jog the memory. (This is the doctrine of nativism[25]). Knowledge is actually remembering--the soul has passed through many cycles, and its knowledge has been stored up and only needs to be awakened. We need an education that makes the soul remember the Forms that it once knew. We have knowledge of equality before we have particular instances of it, because equality is self evident. We similarly know of beauty, goodness, justice, and holiness. Plato is called a rationalist because he believes that we can know the truth without learning about it from experience--ideas are more important than the changing world. But note: just because we *can* know the truth does not mean that we *do* know the truth.

Plato came up with his concept of an ideal reality in reaction to the Sophists, who said that truth is what you make it--Plato argued that right and wrong are different things, and we can discover them in two ways--one is by logic, one is by intuition. Logically we can use Socrates' dialectic to examine a concept --eg, is there really such a thing as courage? To answer this, Plato looks at specific courageous acts, and looks at what they have in common--this gives us the idea of courage apart from specific situations. The universal idea of courage is the real courage, that exists regardless of the situation. By looking at a number of specific instances of courage, you can logically figure out the general idea by induction, which works from particulars to generalities that are always true regardless of the situation (they are archetypally true).

Intuitively, we can know things because we are all born with a knowledge of the Ideal reality, but we forget it--we are fooled by the appearance of things until anamnesis occurs--this explains how we can know things even if we have never experienced them. In the *Meno*, Socrates asks an uneducated young man a series of questions about a geometrical problem, in such a way that by simply responding to Socrates the young man finds the correct answer. He then makes the point that we know things we did not know that we knew. The idea that we are born with innate character and knowledge is called nativism, in contrast to more empirical approaches that say that these are a function of nurture. The proofs of geometry also shows us that knowledge can be justified by reason, that logic leads to truth. However, Plato realized that geometry depends on axioms that themselves need proving, so it is an incomplete form of knowledge that needs transcendental support in the world of Forms, which is the place of all Truth.

[25]We can see here the nature-nurture debate. One of the problems with an emphasis on innate knowledge is the possibility that some people will be seen to be more gifted, better endowed, than others, leading to Èlitism.

Plato believed that philosophers would make the best kings, because they are more interested in the truth than in their own importance. In his ideal society, the rulers of the state would have true knowledge, and he outlined a training scheme for philosopher-kings so that they would be able to recollect what is in them already. The leader is trained in reason, arithmetic, geometry, astronomy, and the dialectic method. He would be able to govern rationally rather than in a way that is based on arguments and squabbling. When people know how to behave but do not do it, they have a weakness of the will called *akrasia*, that makes you give in to short term desire. By contrast, a good philosopher has *arete*, or the strength of character that allows him to behave according to ideal goodness. But not everyone has this--there is natural inequality (*Republic*). Plato did not like either democracy or tyranny--both allowed selfish people to have too much power. His ideas about government are very Èlitist.

If everyone was virtuous there would be no need for government--we would govern ourselves, and share as needed. There would be no need for wealth, police or soldiers to protect people. But since this is not so, the ideal republic has 3 types of people; rulers (philosophers) who understand ideal reality, and have the fewest personal desires; soldiers to protect the state, and trades people who are motivated by their appetites and desire for possessions. (There are some problems here!) We can test children to see which they would best be suited for, according to whether they are wise, courageous or desirous.

Plato distinguishes between the soul of the world and the individual soul (*Timaeus*). The Demiurge or creator of the world endowed the world with a soul that is the cause of motion, beauty, law, harmony, mind, knowledge and order. This world soul lies between the world of Ideas and the world that we see. It has its own laws. The Demiurge also created the souls of the planets and the individual souls, which are eternal. The soul exists within the realm of Ideas, but coming into the body is like coming into prison--the body clouds the soul, so that it forgets what it has seen. The goal of the soul is to free itself from the body in order to see the truth clearly and recall the pure Ideas. The body is unreliable--the soul is more truly human, and possession of a soul separates us from the rests of nature. The soul is immortal--it had once occupied a star, but it leaves heaven and enters the body. If it frees itself it re-enters the star and lives there forever, but if it fails to become free it will sink lower and lower, moving from one body to another (cf the idea of *moksha*, in Hinduism). Ideally the soul wants to spend eternity contemplating the world of Ideas.

The soul has rational and irrational aspects to it, centered in the head and body respectively. The

rational soul is the only immortal one. It will be led back to the Forms with the correct education. The soul has two activities; pure intellect is the highest--it gives intuitive knowledge and understanding; the second is opinion, which is the result of our interaction with the environment--this gives rise to belief and conjecture. The spirited soul is located in the chest, and is motivated by the need for fame and glory. The desiring soul is located in the belly, and here is located the desire for food, sex and money. The personality is likened to a chariot pulled by two horses (*Phaedrus*). One horse, the spirited soul, needs no whip, but has a thirst for honor, and is restrained and modest. The other horse, the desiring soul, is hardly controllable even with a whip. The charioteer is the rational soul that tries to master the horses and drive them towards the good. Freud picked up this analogy, and he must have been impressed with Platoís pointing out how, when we are asleep, ìnothing is too outrageous: a person acts as if he were totally lacking in moral principle...in his dreams, he doesnít stop at trying to have sex with his mother and with anyone or anything else--man, beast or god...î (*Republic*, 571d). Clearly, Plato separates reason from the irrational passions of the soul, and this tension has permeated much of western thought since his time. Some theorists distrust emotions and make reason primary; as we will see, the Stoics tried to get rid of emotion as much as possible (Mr. Spock.) But ecstatics of all types have distrusted reason, and they connect with the divine by means of emotions. The Romantics also preferred emotion to reason, and Pascal realized that the heart has its own reason of which reason knows nothing. Hulme agreed that reason is a slave to the passions. Freud suggested that the ego is the driver of the chariot as it tries to master the horse of the id.

The chariot model also suffers from the problem of the homunculus. It is as if the rational soul is like someone in the person who steers things; but how do we explain the behavior of the charioteer? Is there another one inside him, and so on *ad infinitum*?

For Plato, then, the soul is the moving force in people, as it is in all things; the soul existed before the body, and brings with it knowledge from previous lives. The body is a kind of prison for the soul. There is a hierarchy of souls--nutritive, sensitive and rational. The human soul contains activities that separate us from the rest of nature, because the human soul is rational, which allows us to have rational thought. Plato speaks of the soul as incorporeal; because the *psyche* is self-moving, it must be prior to body, which needs to be moved by something. In *Phaedo*, *psyche* is an intellectual faculty that seeks the truth. States that we would call mental, such as perception and pleasure, he assigns to body rather than *psuche*. But later, in the *Republic*, he allows desire to become a part of *psuche*, along with reason.

Is the Demiurge what the Judeo-Christian tradition calls God? Is the Idea of the Good the same

as the One God? Probably not, because Plato's God is more abstract. The Demiurge is a metaphor for universal Reason or Mind. This is a principle of order in the universe that orders the Forms and creation, but it does not create out of nothing. There is no God who creates everything in Plato.

Aristotle (384-322 BC).

In Plato we find the idea that there is an essential, hidden source to personality that we have to realize, and also the idea that we can develop a more transcendent point of view than that of the ego. But, modern psychology wants to cut out the "supernatural"--anything that sounds religious or spiritual. Here the method of psychology becomes the method of Aristotle. He appears at the end of the classical Greek period, and he incorporated everything of the work of his predecessors that he thought was valuable. Aristotle's work is sometimes regarded as the sum and substance of Greek achievements; his work is unequaled for quality, precision and historical influence. He was regarded as the foremost authority on almost everything--ethics, politics, psychology, biology, literature, logic, meteorology, astronomy, physics. Unfortunately, although he wrote a good deal, the originals were destroyed by the barbarian attacks on Rome, so we only know him through the reflections of other authors and, fortunately, some Arabic translations.

Modern psychology is sometimes said to begin with Aristotle. He grew up as the son of the physician to the king of Macedonia, Amyntas, and his exposure to medicine at the court may have given him an early appreciation for the natural world. He was Plato's greatest pupil (for 20 years), tutor to Alexander the Great for 4 years after Plato died (347BC). Aristotle opened a school in Athens (the Lyceum) for the study of rhetoric and philosophy. He liked to teach while walking about, so his followers were called peripatetics. Aristotle was more suited to scientific inquiry than to theology or religion--he ignored Greek religious dogma and was biased towards pure science. He began the system of classifying and thinking about the natural world that grew into modern methods of scientific observation--he looked at animal biology in terms of behavior, sensation, reproduction, etc. Arisotle dissected many animals and described them in minute detail. He did not speculate metaphysically as much as Plato did, but he refused to adopt a purely materialistic or mechanical theory of life and mind. He was empirical, a collector of facts and a meticulous observer, practical, interested in this world, quite unlike the more mystical Plato. Aristotle wanted to explain the natural world *as* the real world without appealing to a metaphysical realm beyond our experience. He wrote on logic, science, the soul, metaphysics, esthetics, ethics and politics.

One of his main ideas is that everything has its own purpose that is part of a larger purpose--the problem is how to figure out what these purposes are, and how they fit together. The world is ordered for some purpose or design, and all life develops according to a purpose--acorns become oak trees, children become adults. Each object has a certain proper goal and wants to realize its potential. The idea that we have a built-in purpose is not popular now (we are supposed to be free), except in Jung's psychology, where he borrowed from Aristotle the idea of the *telos* or goal of the personality. Change occurs for a purpose--it has a *telos*. The greatest purpose is for us to live life well, using virtues we were supposed to use, such as reason, courage, honesty, moderation. We should live according to the golden mean--don't do anything to excess.

Aristotle believed that logic can be used to separate truth and error. He disliked the Sophists because they were illogical, just playing with words, so he developed rules for logical thinking. For him, the building block of all argument is the syllogism. For example, all men are mortal, Socrates is a man, therefore Socrates is mortal. Logic has to be sharpened to pursue knowledge! Aristotle tries to analyze the thought inherent in language; he defines an object, constructs a proposition about the object, then tests the proposition by an act of reason. All dogs are vertebrates; all vertebrates are animals; therefore, all dogs are animals. This kind of thinking has been used in science ever since. He also separated and defined the meaning of deduction and induction; deduction means we begin with a general characteristic or truth, and apply it to a particular instance of that truth; All dogs are mortal; Rover is a dog, therefore Rover is mortal. Induction means that we reach a general conclusion by studying several instances of something--we generalize from individual cases to universal statements. He relies on inductive logic, reasoning from the many to the one, as opposed to deduction, which reasons from first principles that are conceptualized abstractly. These become important principles of empirical science.

Aristotle was a pupil of Plato; he believed in the Ideas and he believed in objects in the world, but he wanted to relate them differently than Plato had done, and here is where he parts from Plato. Plato separates the Forms from things, but Aristotle unites them.[26] For Plato the Forms are the only Reality, but Aristotle says that the Forms are embodied *in* the material world--they cannot be separated from their visible manifestations. Aristotleís problem with Plato was: How can perfect, eternal, Ideas be impressed on lifeless matter? Aristotleís answer was that Forms cannot be outside things, not transcendent, they must be *in* things. Form and matter are always

[26]Rather the way that Hillman unites the archetype with its image, in contrast to Jung saying that the archetype only points to an unknown reality.

one, and cannot be separated; our thinking separates them--the Form acorn cannot be divorced from a particular acorn. The world is not a *copy* of the real world, but it *is* the real world, so we can investigate the world by the senses. An acorn is striving to become an oak tree--matter takes on different forms as it changes. Matter is always trying to realize Forms, so we cannot separate matter and form. The essence of something (its form) makes it what it is and what it is trying to become; the essence of the acorn makes it become an oak, so change has a purpose. (This idea about change was replaced by the theory of evolution.) In other words, Aristotle believes that the Forms express themselves functionally--the potential of the Form becomes something material.

When Aristotle distinguishes matter from form, he separates substance, the matter or stuff that things are made of, and essence, or form, which is what everything actually *is.* Plato had said that an invisible Form determined the shape of everything, but when Aristotle says that form and matter cannot be separated, he is saying that form exists *in* matter, or essence exists *in* substance. Form is not an invisible and unchanging Idea in a realm of Being that is separable from our world, but a part of the way things are; there is no ideal world of forms, only this physical world--what you see is what you get.

Said a different way: matter means physical existence, but matter itself is unknowable --in its pure state it would have no characteristics--we do not know it until it is joined to form--it has to be informed. Matter is the permanent aspect of an object, which can take the form of an acorn or an oak tree--the form is what it is at the moment. So, for Aristotle, form is more than just shape. Form is what makes a thing what it is; a car is steel--the matter--but it does not take on form until it is manufactured--the same steel could be made into other things, and the same form could be made of another material. We know the thing by its form. The universe is the result of the union of matter and form. According to Aristotle, these are the two basic aspects of any natural phenomenon; there must be something that remains the same (an essence), but which is also subject to variation (matter), so that there can be changes. Eg, an acorn becomes an oak tree, but there must be something permanent, some essence that is still the same, that at one time was an acorn and later is an oak tree.

So far, we have seen various theories of change: For Heraclitus, things collide with their opposites. For Parmenides, change is illusory; actually nothing changes. For Plato, change shows how things are inferior to their Ideal forms. For Aristotle, change has a purpose or

goal--things become what they should become.[27] He has other ideas about the causes of change, which are part of his theory of causality. Here he's trying to explain *why* things happen; he's looking for first principles, in the tradition that begun with the Ionian philosophers.

For example, what is the cause of a statue? The idea of the statue in the mind of the sculptor is the form that has to be realized--this is the *formal* cause--we would call it the sculptor's fantasy. The marble is the *material* cause--the stuff the statue is made of. The tools and the act of sculpting are the *efficient* cause--the action needed to do something. The fourth cause is the *purpose* of the statue--that for the sake of which the statue is made. Objects have a purpose; we grow crops in order to eat. Rain and fertilizer and sun are efficient causes of the seed growing; the final cause is the oak-hood of the acorn, which explains the need for the earlier stages. A stone falls to earth because it returns to its natural place--its movement downward is teleological and purposeful. There are therefore four ways to explain things and events. He uses this theory of causality to find explanations of reality.

Modern science only concentrates on *efficient* causes such as the law of gravity. It seems odd to us to think of matter in its own right as a cause of anything--we ask about the cause of events, not of matter itself. For modern science, there is no essential, eternal form of something like an animal, since evolution shows that organisms change. Today, the reason an acorn becomes an oak tree is simply because of its DNA, not because it is trying to achieve its purpose. Current science gets rid of final causes also, in contrast to Aristotle, who said that nature does nothing to no purpose.[28]

For Aristotle, (and for Jungís final or synthetic view of human behavior), objects or people are trying to reach their goal; every object has the potential to acquire its proper form that is its end (they are trying to individuate). Everything has both potential and actuality; clay is potentially a statue. Every object in the world is made of "matter," a basic stuff. The matter of any object has a potential to reach its goal--change or motion is the attempt to actualize this potential. But, the proper form is only its relative goal; there is also an ultimate goal of every object, which is a state of complete rest from which it cannot change. However, whatever is made of matter has the potential for change, so it can only arrive at its final goal by becoming pure form. Here we

[27]Work on the mechanism of change continued; for Darwin, changes occur when random genetic mutations confer an evolutionary advantage.

[28]It is intriguing to speculate here about the anthropic principle; the idea that the universe seems to have been designed with life in mind, as a goal. This idea is based on the fact that physical constants have to be exactly what they are for life to have occurred.

see Aristotleís influence on alchemy; there are two basic entities; primary matter (*prima materia*) and substantial form. Primary matter is the basic stuff that all things in the world are made of--it is the essence of all things. Form allows primary matter its existence--form expresses matter in terms of objects in the world. (Make something of yourself).

Pure matter in Aristotleís sense is pure potential that can become anything, any kind of form. If there is pure potential, there must also be something that is pure actuality, which would be a perfect being, a fully realized being whose potential cannot be used up and cannot change because it is perfected. This is Aristotleís unmoved mover, this is the first cause of everything, which Christianity later identified with God. There has to be an unmoved mover that makes everything else move--things change because they want to be like the unmoved mover. This prime mover has no matter at all, and hence no potentiality--later on, in Medieval Christianity, this becomes the idea of God as pure spirit. (Something has to make the Forms contact our world.) As things become more and more actualized, they move nearer to the unmoved mover as their potential becomes actual. The striving for actuality causes a hierarchy among all things, from unformed neutral matter in a state of pure potential to the unmoved mover--later this was called the great chain of being.

Aristotle (*De Anima*) also developed a theory of the soul and mental functioning. Aristotleís theory of the soul defined psychology until the Renaissance, when he was finally challenged. Modern depth psychologists keep talking about the soul, but it is useful to remember that the historical origin of this word is very complex. Aristotle thought that the person is composed of a body that is material and has a formal principle (*eidos*) that is the soul; the soul is the set of capacities of a living body, in the sense that seeing is the capacity of the eye.

Aristotle classified the behavior of the soul, which is a sort of life principle. Everything living has soul, but there are different types of soul at different levels of actualization--the lowest level is the nutritive soul of plants. The nutritive soul is responsible for maintaining the plant nutritionally, for reproduction, and for growth. Animals have a sensitive soul, making them aware of their surroundings, and allowing them to feel pleasure and pain. The human being has a rational soul, which adds mind and the capacity for thinking, knowing and willing. The human soul enables us to reason, and we were meant to reason. The soul that reasons is part of the body--it is you, and it makes you who you are. The rational soul is implanted in the body before birth, and after death it goes back to its divine source, where it continues in an eternal but impersonal form.

By soul, Aristotle does not mean what Christian theologians mean--*psyche* in Aristotle is a process, not an immaterial essence as it is in Christianity--it is thinking and feeling themselves. The emotions are conditions of the soul, and they can only exist by means of a body--this is a physiological psychology. Aristotle was not an extreme materialist--exactly how materialistic he was, is controversial.

For Aristotle, the soul differentiates the animate from the inanimate worlds. Only the bodies of organisms that have the potential for life have souls; the soul is "the form of a natural body having life potentially within it." Soul defines what an animal is, or the nature of the animal, or what it is to be that animal. Soul is the essential cause of an organism; a dog has a dog's soul, which is why it is a dog. The soul is the efficient cause of life processes--without soul the body is dead matter. The soul is also the final cause, because the soul guides the development of the organism. The soul is the efficient cause of the life of the body, while matter is the material cause of the body. Soul is the actuality and the actualizing force of a living organism that fulfills its potential to have life.

Aristotle rejected any form of dualism--we cannot separate body and soul. The organism is a unity; without soul the body is dead, and without body there is no soul. Aristotle therefore rejected Plato's explanation of the *psuche* as immaterial, because this does not explain how body and soul are joined together. Obviously his ideas about the soul were useful to later religious philosophers. They relied on him, even though he did not believe in the immortality of the soul--for him it dies with the body. This opinion was ignored by the Christian philosophers of the Middle Ages who developed his ideas in accordance with their doctrine.

Aristotle also had a theory of perception that is called perceptual realism. Far from thinking that sense perception is illusory, like Plato, Aristotle considers it essential to knowledge. His theory is a theory of the interpretation of sensation, which is not itself sensory; when I drink tea, I do not experience separately its taste, temperature, and smell; the experience is integrated by common sense, which is a process that unites the five senses. What Aristotle called ìcommon senseî unifies perception, so we recognize that the different sensations coming from different sense organs--red, cool, crunchy, scented--come from the same apple. He thought that we do not perceive objects themselve, but rather their qualities, like whiteness or roundness, which are non-material forms (not Platoís Forms) that are inherent in matter--that is, redness is really in the apple. When we see the forms of objects, they are recreated in the eye; the senses are passive, just conforming themselves to the form of the object. The sensations aroused by the form of the object are transmitted through the blood vessels to the mind, which must be in the heart, since

people can recover from head injuries but not heart injuries. Here the senses come together and are coordinated into an integrated experience. We then use our imagination to judge what an object actually is; there is no doubt that I see a red sphere, but I have to judge whether it is an apple or a red rubber ball. (This idea of distinguishing between sensation and its interpretation fits with what is known about brain damage, which can separate a perceptual stimulus from its meaning (Oliver Sacksí man who confused his hat/wife) because these processes happen in different parts of the brain. But for Aristotle, the only function of the brain is to cool the blood if it gets too warm.[29]) The imagination is also responsible for telling us whether the object is good or bad for us.

Aristotleís works were lost to Europe after the fall of Rome, but had been preserved by Islamic scholars and were rediscovered after the Dark Ages. Aristotle was practically canonized by the medieval Church, as a sort of pagan saint. As we will see when we discuss Thomas Aquinas, his ideas were wedded to Christian dogma and remained unchallenged for a long time. Aristotle dominated European thought until his ideas were overthrown by the scientific revolution in the 17th century.

Tarnas (*The Passion of the Western Mind*) suggests that Plato and Aristotle left a ìdual legacy.î On the one hand, there is an underlying order to life that can be grasped by reason, even if it is invisible. To understand this order brings knowledge, intellectual satisfaction, and a relationship with the divine. On the other hand, the empirical tradition stresses the primacy of the natural world, skepticism, and the importance of direct observation, with no assumption in higher, invisible realms. Faith not important here; evidence matters more. Tarnas believes that the tension between these approaches has been crucial to the development of the western mind.

Greek Medical Ideas

Greek medicine affected the thinking of all the classical philosophers--they had an integrated view of nature, so that they did not distinguish physiology and psychology as we do. In the 6th century BCE, the physician Alkmaeon of Crotona (550-500 BC) has been called the father of Greek medicine. He was probably the first Greek[30] anatomist--he discovered the optic nerves

[29]Much later, in the Scientific Revolution, Aristotleís realism is replaced by theories of perception based on representation in the mind; here we do not perceive things themselves, but ideas about things in our consciousness. This theory has its own problems, as we will see.

[30]Actually Graeco-Italian--Croton is in S. Italy.

and Eustachian tubes. Presumably, knowledge of the body had mainly come from wounds and the from the inspection of entrails by auguries, but he actually dissected. He asserted a connection between the brain (*encephalon*--in the skull) and consciousness, realizing that the brain is the organ of the mind, of sensation and thought. He thought that sleep happened when the blood flowed out of the brain into veins, and if this went one way only, death occurs.

Hippocrates was born about 460 BCE. His method was a systematic precursor of modern science, and represents an early attempt to separate medicine from superstition and religion. Plato's thinking was not very suitable to medicine because of its skepticism about direct observation--but Hippocrates was committed to observation. We know about him from the writing of Galen (130-200 CE), and its hard to know what is authentic. Hippocrates was interested in the balance of the humors in the body. Empedocles had said that all things are made up of the four elements, earth, air, fire and water, held together by "love" or kept apart by "strife." Hippocrates applied this idea to the body; good health is the result of the proper balance of the bodily fluids or humors, that correspond to the elements. Blood corresponds to fire, phlegm to water, black bile to earth and yellow bile to air. For the next 2000 years, disease was attributed to imbalances of the humors. So physicians would drain off an excess by blood-letting, or give medicine if one humor was lacking. If the four humors were in balance, thinking would be normal, but if any humor would be out of balance, mental illness would result. Hippocrates realized that the brain is the source of feelings and thinking, so the brain must not get too hot or too wet or dry, etc. Humoral imbalance causes "corruption of the brain." Later, Galen used the humoral theory to account for temperament; phlegmatic people have excess phlegm, melancholics an excess of black bile, sanguine people an excess of blood, and the choleric temperament has too much yellow bile. This idea persisted until the 18th century. (It could be said that the humoral theory is still the basis of biological theories of mental illness--we have just changed the name of the humors; now we call them dopamine or serotonin). Galen kept alive the idea of experimental methods in medicine, the idea that we can test theories and use our experience empirically, while the philosophers were preoccupied with eternal imponderables. But Galen also believed in the *anima*, a life principle, which was an early form of vitalism--this tension with the pure materialists is still present.

In the post-Aristotelian period, the work of earlier thinkers was collected in libraries, especially the Alexandrian library of Ptolemy 1 of Egypt. Euclid appeared in geometry, Archimedes in physics,and Eratosthenes in geography (he first calculated the circumference of the earth). Science now starts to separate from speculative philosophy, but psychology is still connected to philosophy.

After Aristotle, during the Hellenistic age,[31] Greek philosophy spread around the Mediterranean area, which Alexander had conquered. Later philosophies are not as idealistic as the earlier ones--they are mostly concerned with how to live. The Romans are less interested in abstract thought than the Greeks, and are more interested in the practical application of science, such as architecture. Instead of ìwhat is reality,î the main question becomes how to deal with it.

Epicurus (341-270 BCE)

Epicurus was an early materialist. For him, pleasure is the beginning and end of the blessed life--especially, we should avoid pain where possible. (A reward-and-punishment psychology if anything.) Today we use the word epicurean to refer to sensual pleasure, but this was not their main focus--they were interested in tranquillity (*ataraxia*), and to achieve this we should behave in the way that gives us the most peace of mind. Don't get involved in politics or marriage, since they limit your freedom. We cannot escape fate, but we can develop our self-sufficiency to the extent that we are untroubled by fate. He believed in Democritus' atomic theory; an infinite number of atoms make the world, not the gods, and when we die that's it--our body and souls dissolve, and there is nothing after death. Atoms collide with other atoms randomly, forming new matter, so that life is never predictable. There are no metaphysical principles--reason and freedom are purely individual matters. There are gods, but they too are made of atoms, and they have no influence on our lives; we should not live in fear of the gods. The *psuche* is a finely structured body--it is not immaterial (same idea as the sheaths in the esoteric literature). The Epicureans believe that the soul is a material part of the body. The soul carries out the functions of sensation and passion, but it operates physiologically--they emphasize the sensation function of the soul; when the atoms of the environment strike the atoms of the soul, we have sensation.

Because epicurians did not worry about death, they felt free to enjoy life--they did not believe in fate, unlike the Stoics, who thought fate decides everything. Pleasure defines the good life, but Epicurus recommends frugality, simplicity and self control, because most short lived pleasures leave residual damage and cause pain. Epicurus has therefore been misrepresented in history--he actually suggests a strongly humanistic, ethical life, joyful, optimistic, this-worldly philosophy. Materialism at this stage was philosophical of course, since there were no instruments with which to magnify and study matter. Because materialism was opposed by the Church, it fell into

[31]This is a period of great change that occurred after the death of Alexander the Great in 323 BCE, until about 30 BCE.

disfavor until modern materialism was revived in the 16-17th century.

A great Epicurean was Lucretius--*On the Nature of Things.* He was also an atomist and a materialist; life arises from the fortuitous colliding of atoms--not randomly, but determined by their previous position and momentum. Mind and soul consist of material particles, and they are dependent on the body--they cannot exist without it.

The Stoics

Epicureanism is usually contrasted with Stoicism. The word comes from the *stoa*, which was the porch on which they held their discourse. This school was founded (~300BCE) by Zeno of Citium (not to be confused with Zeno of Elea). For the Stoics, we achieve tranquillity by disciplined control of the emotions--the mind is in control, and it is ideal to feel as little emotion as possible, because then there is no suffering. Their goal was to attain *apatheia,* which means without pathos, or without suffering. Human freedom is really about cooperating with the universe, providence or *pronoia,* which is a divine force that determines our lives. Fate is derived from the laws of nature or the gods, and we must cooperate with fate. There is no inner determinism, and no such thing as chance. Their attitude was: ìDon't get excited about things--you cannot control them anyway, but you can control your attitude to events, so resign yourself, stop complaining and get on with it. In any case, fate determines everything, so do what you can--be responsible-- but that's it; we are essentially passive agents, not active agents.î (This active/passive argument keeps recurring in the history of psychology and philosophy.) If you care, you are weak--if you are passionate you are vulnerable. Just don't let things bother you--the pain is only in the mind, so behave as if it is not there---use your will to master passion. The soul has free will about how to respond to fate. This became a popular idea in Rome, with Seneca, Epictetus, Marcus Aurelius. (Probably this helped the Romans be pitiless, sadistic and torture people.) The Stoics are sometimes said to be materialists, but this is a mistake; the material world is actually living, not dead matter. It contains the basic principle of the universe as the *logos,* or the *logos spermatikos,* the divine word that is cast into matter--one aspect of the *Logos* is providence. All reality is pervaded by the *Logos,* which is a divine force that orders things. We have to attune to this force to be happy. The idea here is that the world soul sends off sparks of itself into matter; the notion of light descending into matter is also Kabbalistic and alchemical. The idea of divine providence begins with the Stoics--a piece of the divine fire determines your destiny. Perhaps this is an early foreshadowing of the idea that the Self determines the course of individuation.

The Skeptics (Pyrrho, 360-270 BCE) thought that we cannot know the truth--we just have ideas about it. People disagree, our senses can deceive us. This is a philosophy of systematic doubt about all dogma, especially about the stoics, who thought they were certain about reality. They liked the idea of *ataraxia*, but they got there by suspending judgment; realizing that nothing is certain, we cannot be sure about anything, so give up all expectations.

The Cynics (Diogenes, about 415 BCE) argued that we should ignore the world, the family, the city, and all forms of social ambition, and live naturally. The word *cynic* means doggish, as if they lived like animals.

Philo of Alexandria (30 BCE-45 CE)

Philo was a devout Jew, a contemporary of Christ, who combined and tried to synthesize Greek rationalism with Jewish thought. Philo has been undervalued by both sides of the long-standing debate between Athens and Jerusalem, because he tried to reconcile and blend them rather than taking sides. He combined the Jewish mystical desire for union of the soul with God with Plato's idea that we want to learn the Ideal form of the Good. Philo said that the Ideal Good and God were the same thing--the oneness that underlies everything. God is a kind of universal mind, and Platoís Ideas are like God's thoughts that order the material world so we can grasp it. Material things tend to interfere with understanding God, so we should think about God in negative terms--what God is not, since words get in the way of understanding. Philo read the Bible allegorically.[32] For example, the serpent in the Garden of Eden = lust. The image represents a hidden meaning. Because he thought that God had influenced both the Bible writers and the Greek philosophers, he believed that the principles of Greek philosophy are expressed allegorically in the Hebrew Bible.

Plotinus (205-270 CE)

Plotinus is important because he had a great influence on the subsequent history of thought. He founded what is now called neo-Platonism, a major school of late Greek thought. His ideas about soul and body became part of later Christian teaching, and in this way restricted psychological thought until the scientific revolution. He was an Egyptian who lived at a time when Rome was corrupt and violent. He started a school that combined Stoicism with Plato's spirituality; he also systematized Plato and revived interest in classical Greek philosophy,

[32] An allegory is a story in which each image stands for something else at a different level.

especially Plato. Plotinus tried to develop a system that would explain the relationship between the material and the physical world. He believed that matter only exists as a formless potential, and the soul provides the energy and direction for matter to acquire form. Nature is the universal soul that expresses itself in different forms of life. Every form of life has its own soul that determines its growth. The soul molds human personality. We know the environment because of the soul, which generates ideas, and these ideas allow us to communicate with the universal soul. He thought that the body imprisoned the soul, so he ignored his body, ate as little as possible, and was generally ascetic, because he believed that the soul should dominate the body by rejecting the material world and find truth in God. He seems to have had out-of-body experiences in trances that he describes, when the highest wisdom was available as the soul freed itself from the body and perceived spiritual reality, or its actual identity with the divine, which he called It. The universe is a hierarchy, with a supreme God who is unknowable, called the One, which is the origin of everything. This level emanates *nous*, a knowable God called Intelligence, the divine mind, that rules over Plato's Forms. From this Intelligence emanates the world soul that permeates everything, then more and more divine beings until we get down to people, whose souls are trapped in material bodies. At the bottom of the heriarchy is matter, *hyle*, or the sensible world. Plotinus wanted to turn people away from the body towards the spiritual realm of truth, beauty and goodness in the realm of the Forms. His emphasis on One-ness was a mystical notion that we could experience if we get passed the illusion of separateness and individuality. Neo-platonists were keen on the idea of a hidden oneness underlying all things.[33]

Needless to say, Plotinus' ideas helped pave the way for Christian thought; Greek philosophy came into Christianity in this Neoplatonic form. Plato's ideas about body and soul were thus Christianized.

The Rise of Christianity

The Roman empire started to decline in about 200 CE, and fell about 476 CE, following waves of barbarian invaders. This marks the end of the classical age and the beginning of the medieval period, during which philosophy was mostly colored by Neoplatonic ideas. In this way of thinking, people believed in "as above so below" -- the heavenly heirarchy has God at the top, followed by the angels, and this is mirrored on earth, with Kings, princes, popes, bishops, etc. all the way down to ordinary people, then animals. Only Church people were literate, and only

[33]About this time, Hermetic philosophy was written, which has so captured some contemporary archetypal psychologists. In the Renaissance, people like Ficino discovered writing that was a mixture of religion, Greek philosophy and magic. Ficino thought this dated back to an Egyptian of the time of Moses called Hermes Trismegistus, who received the word of God and was supposed to teach it to the Gentiles, as Moses did for the Jews. Ficino thought that Plato got his ideas from Hermes who got them from God. But Ficino got his dates wrong.

Latin was used to write. It was forbidden to translate the Bible into a vernacular language--when this happened in the later middle ages, it was revolutionary. . These dark ages lasted until about the 12 th century. Meanwhile Christianity was gradually taking over.

The relationship between Christianity and Greek thought was centered in Alexandria, where the Patrists or Fathers of the Church dominate philosophy--Clement of Alexandria, Tertullian, Origen, Augustine. They were very concerned about the nature of the soul and its relation to the body. They were mostly Romans. They rejected all the earlier ideas that were not in keeping with Christianity, while retaining and tailoring all ideas that were doctrinally acceptable to it. This meant that philosophy was no longer independent--it took a back seat to Christian doctrine and did not become independent again until the Renaissance, and even more so in the 17th century.

Clement of Alexandria (about 150-215 CE) was a Greek who tried to synthesize the Hebrew scriptures and the new Christian tradition with Greek philosophy, as Philo had tried to synthesize the Hebrew and Greek traditions. Clement thought that the Gospels were the point of convergence of Athens and Jerusalem. Christianity developed a Greek foundation by incorporating much of Plato and Aristotle. Origen (185-254), a Christian Platonist, wrote a Greek translation of the Hebrew Bible with a commentary. (He castrated himself because of the passage in Matt. 19: 11 about becoming a eunuch for the sake of the kingdom of heaven. He symbolizes the growing tendency to split off instinct from spirit.)

Origen realized that Plato's idea of a hidden heavenly world was in accord with Christianity. The pure essence of Aristotle became God, able to express himself in three types of existence--Father, Son and Holy Ghost. Humans have an essence, that is the soul, that exists in a body--so an essential dualism was preserved. But modifications were necessary: Tertullian said that the soul could not exist before birth, as Plato had said, because it was created by God, although Origen was posthumously condemned for agreeing with Plato on this point. Tertullian disagreed with Democritus that the soul and the mind were the same thing, since the soul was divinely created. A touch of Stoic determinism was thrown into this mix, because it suited the Fathers to believe that God is in charge of everything, so we must submit to the will of God. In the attempt to reconcile Judeo-Christian and Greek thought, the Church Fathers made an interesting move; the one God of the Hebrews and the many Gods of the Greeks were resolved in the idea of the Trinity.[34]

[34]Christian love was subordinate to doctrinal purity, as we see in the case of Hypatia--she was a Neo-Platonist, but

The Roman influence on Christianity after the conversion of Constantine (312 CE) is seen for instance in the fact that Christian liturgical dress and ritual was copied from Roman religions and cults, and the Bishop of Rome was called the *Pontifex Maximus*, which was a title used by the pagan high priest in Rome. Candles, incense, processions, etc. were all standard pagan practices.

After the Council of Nicea in 325 CE produced a common creed, Christianity became more standardized, and Western society reorganized itself along Christian lines. The Churchís moral teaching took over, and the Church became a main source of order and rules of behavior as civil government became fragmented. (At this time, Sts. Jerome, Ambrose, Anthony, and Basil are important names). Deviation from the Council of Nicea was heresy, and Bishops had to enforce the doctrine. The Bishop of Rome became more important than other Bishops, and eventually the Emperor Valentinian III declared that Pope Leo I (460-461 CE) had authority over all Churches. (The Bishops of Constantinople and other places did not like this.)

St. Augustine (354-430 CE)

Augustine became the standard Christian theologian and thinker.[35] Augustine believed that any knowledge other than that of Scripture is either evil or redundant--I think this is because he seizes on Christianity as his main idea, and stays loyal to it, like a good feeling type. For him, knowledge is good if it serves religious purposes, but bad if it does not. The Roman world that he was born into--in what is now Algeria-- was failing, barbarians were invading the empire in his youth, and by his mid-life Rome fell to the Goths. In his old age, the whole Western world was collapsing. He became a professor of rhetoric in Carthage, and later in Rome and Milan. His major contribution to psychology is the *Confessions*, which are an example of self-analysis. He bares his soul in them, presents his earliest memories, tries to explain his motivations for doing things, describes his grief when a friend dies, and discusses the love of fame--very flesh and blood stuff, unlike Plato and Aristotle.

Augustine was raised as a Christian by his mother, St. Monica, but fell away from the faith and turned to a hedonistic life style As a teenager he really enjoyed life; he indulged in much

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not a religious one (370-415). She was a pagan, a scientist, a mathematician and an important political figure; St. Cyril of Alexandria ordered her to be cut up alive with sharp shells and burned.

[35] In fact, he sounds like a feeling type. He wants to "lay open our feelings to God" (p. 257); "this is what I feel when I hear your scripture" (p. 284)--he's always telling us his feelings, weeping (see King, p. 91; *Jung's Four and Some Philosophers*).

fornication, which led to an illegitimate son. In his 20's he was a follower of Mani.[36] Later, Augustine became full of guilt about his early life, and much troubled by the state of the world, by corruption, taxes, gladiatorial displays, etc. He was very influenced by St. Ambrose, who lived in Milan where Augustine taught rhetoric. At the age of 32, Augustine gave in to his mother's urging him to marry, but he had to give up his concubine of 15 years and wait for his fiancÈe to come of age. One day, while in an emotional turmoil, he heard a voice say "take up and read." He picked up a copy of St. Paul's writing, randomly opened it at: "not in rioting and drunkenness , not in chambering and wantonness, not in strife and envying, but put ye on the Lord Jesus Christ, and make not provision for the flesh" (Romans 13: 13). Suddenly his soul-sickness vanished and he felt happy and serene. He abandoned his plans to marry, and converted to Christianity in 387 CE. He became a priest, then Bishop of Hippo. His main work was the *City of God*, in which he tries to reconcile reason with the doctrines of the Church. Here, in response to non-Christians who had blamed the attacks of the Visigoths on Christianity, he also tells us that the sacking of Rome in 410 CE was not the fault of the Christian God.

Augustine believed in introspection, in an interior sense of truth and error, in personal obligation and identity. This interior sense is the judge of perception; it is a kind of innate moral conscience. All perception is an activity of the soul, and we can know eternal truths by means of the illumination provided by God. The notion of illumination is his substitute for Plato's theory of reminiscences. God's light enables people to contemplate the Truth internally--the soul is the receiver of divine wisdom; through the soul we acquire knowledge that is not available through the senses. The soul allows us to transcend physical reality.

He is interested in converting pagans, so the *Confessions* are an attempt to study the psychological factors involved in human conduct--they are a self-analysis in which he describes his subjective emotional experiences. He works on his guilt and his personal struggle, rather than dismissing passion as Socrates had done; whereas Socrates had simply condemned passion in favor of reason, Augustine exposes the psychology of his difficulties. So, whereas Plato is transcendental, Augustine is more clearly psychological. But Augustine was awed by Plato, and incorporated much of Plato's thought into his theology--eg, the Forms are thoughts in the mind of God. In this way, he also tries to merge Athens and Jerusalem--what Plato called the idea of the good is now the Christian God. He borrows from Plato's idea of the ideal republic and marries it

[36]Mani was a religious figure from Babylon (216??) who received revelation from an angel. He taught that the universe is divided into contending eternal forces of light and dark; there will be three stages of a cosmic battle, after which light will win over darkness. Manichaeism was fairly successful in the Roman empire, and was severely persecuted by the Roman emperor Diocletian in 297 and later by Christian rulers.

to Christian ideas of good and evil, by suggesting that humanity can be divided into two types of society--an earthly city that is materialistic, and the City of God that the Church identifies for us. Therefore, worldly government is always inferior to the rule of the Church, which justifies the Church filling in the gaps within civil government. He affirms the Platonic distinction between body and soul, says that sensory information is primitive, and postulates a transcendental level of consciousness. Like Plato, he believes in the goal of happiness, which for Augustine lies in the beatific vision of God, who is the *summum bonum,* which will be attained in the next life. Happiness is attained by cultivating the soul. But Augustine differs from Plato in important ways--Plato had said that the soul remembers truth it knew before this life; this does not fit with the Christian notion of the creation of each soul--each soul is a new creation, so how can it have prior knowledge? Augustine says only that God speaks to and through the soul. Anyone can listen and respond; he does not agree with Plato that humans are divided into those destined to rule --men of gold--and those who are men of brass; Augustine is egalitarian. The Patristic philosophers in general were interested in this kind of equality, although not equality of religious points of view.

Augustine addressed the tension between free will and determinism, and the problem of the presence of evil in the world of the good God. He rejected the approach to evil of the Manicheans, who believed in an evil divinity. He believed that evil is the result of the misuses of free will; we are morally responsible beings, and we must chose to do good or evil results. The creation is inherently good, and evil is the *privatio boni*; the deprivation of good; evil is the denial of God. He also dealt with the problem of evil by saying that it was not created by God, but is the result of the distance of God from material reality. Anyway, the injustices in the world are only a human perspective, due to our ignorance--the attempt to judge God is the result of pride. For Augustine, humans take all the blame for evil and only some credit for doing good. Sexuality is especially sinful---we have inherited original sin from Adam, which debased humanity so that our free-will is self-centered. There is a kind of war between the demands of the flesh and the soul, which is the location of goodness. Even though people are mostly sinful and weak, and God is perfect and powerful, we can develop some relationship with God. But we cannot choose to be good without the grace of God to help us, because we are essentially sinful. The gap between fallen humans and the perfect God is so great that only the incarnation of Christ can bridge it; he is the essential mediator between God and humanity. But we are so sinful and proud that we do not have true faith in God, so genuine belief is the result of divine grace infused into sinners, and not the result of our trying. It is not difficult to imagine his depressive anxieties and his punitive superego. Unfortunately these were projected onto his image of God and taken up as Christian standards for a long time.

Another of Augustine's main ideas was the importance of faith; he said "believe in order that you may understand." There is a longing in the soul for God, so living in accordance with God is living in accordance with natural law. The good life is turning to God, allowing God to draw the soul into union with God in heaven. Everything has to be subordinated to that task or we will never find peace.

The problem with Augustine is that his work induced fear in people and reduced creative thinking and the search for truth in other ways than Christianity approved of. The Church was said to be the ultimate authority. But his theories of equality before God, personal responsibility, and free will were useful, as was his attack on materialism and his focus on reason. He subscribed to a dualism between body and soul that became a split between mind and matter, or the mind-body problem.

As well as Augustine--Jerome, Ambrose and the other Church fathers are important. Then also Boethius (480 CE), Duns Scotus Erigena (810-877 CE), Anselm (1033-1109 CE) and Maimonides (1135-1204 CE).

In the period after the death of Augustine, Rome was repeatedly attacked by invading tribes, and its people drifted away into country towns and villages--Western Europe became rural. Its libraries and science were scattered and lost, along with much art and learning in general. The lack of a central government led to the development of multiple small kingdoms ruled by local despots, and a great decline of learning, although the monasteries preserved some classical knowledge. With the decline of Rome and the loss of a central authority, a period of chaos supervened in western Europe, with poverty and hardship for ordinary people. Western Europe became a conglomerate of little fiefdoms and kingdoms all fighting with each other, if they were not fighting invading Normans or Norsemen or Magyars, Goths, and others. The Papacy was some kind of organization that filled the political vacuum. This chaos led to the feudal system, which was relatively settled. But there was little interest in learning between the 6th century and the 13th, except in monasteries, especially in Ireland; Irish monks "saved civilization" by copying early manuscripts (*How the Irish Saved Civilization*.).

John the Scot arose out of the Irish monasteries--he taught that reason was superior to revelation, that the universe and God were identical, and that creation was timeless---for which heresies his books were posthumously burned. People were torn between the commands of Christianity and

the local kings. Civilization declined in the West, but in the East the Byzantine Empire[37] developed after Constantine transferred the capital of Rome to Constantinople (Istanbul), in 330, on the site of ancient Greece.

Meanwhile learning did thrive in Asia and among the Arabs, and Islam developed and spread. Mohammed (b. 570 CE) had his vision of Gabriel in 610 CE. The Muslims developed agriculture and commerce, and they invaded territories that were once ruled by the Byzantine Empire, where they learned and preserved Greek philosophy and Aristotle, as well as Indian philosophy and Sanskrit. By 1100 CE they were superior in mathematics, astronomy, medicine, chemistry, art and architecture. The Arabs then ruled the area around the Mediterranean that had been influenced by Greek philosophy. The Arabs re-discovered Aristotle and spread his ideas to Jewish and Christian philosophers. One famous Islamic scholar was Avicenna (980-1037 CE) who spread these ideas around and tried to reconcile Islam with Aristotle, even though some of his ideas contradicted official doctrine. The Chinese Tang Dynasty (618-907 CE) had developed technology, agriculture, poetry, art, a university, and social organization. In some ways China was much more civilized than Europe.

After the Roman capital moved from Rome to Constantinople, the situation in western Europe continued to deteriorate due to wars, famine and illiteracy. The general level of culture deteriorated, with the exception of the monasteries. In the medieval period, the popes had great power as authority became centralized with them. Gradually the Crusades (1095-1291 CE) brought Europeans into contact with the Muslim world, commerce began, and Greek learning was brought back to Europe. The Italians began to trade with the Orient. Eventually more settled towns grew, and Universities began in Bologna in 1088 CE, then in several Italian cities, then in Paris in 1160 CE, Oxford in 1190 CE. But theology dominated the curriculum.

Between 1000 and 1300 Europe started to recover from its chaos, and nation states emerged with monarchs and aristocracies. The papacy was in charge over most of western Europe, and not only theologically, since the Pope confirmed the legitimacy of temporal rulers. Knowledge was censored; the Dominicans were founded in about 1200, and they used their intellectual ability to

[37]The eastern Roman Empire is often called the Byzantine Empire, which was a rich center of culture and learning, and was extensive initially; it shrank, and was conquered by the Turks in 1453, at the end of the Middle Ages. The Byzantine Empire had its own form of Christianity, preserved today as the Eastern Orthodox Church. Christianity here took on a Greek flavor.

fight heresy. They scrutinized everything that was written for errors, and developed the Inquisition, which lasted several hundred years, so scholars had to work in secret (*Malleus Maleficarum* was published as late as 1487 CE). (The persecution of "witches" and the mentally ill extended into the 18th century, in Salem, MA). The Inquisition was all about social control by Christian Orthodoxy, which was supposed to be based on the will of God. Abnormality meant that you deviated from the official teachings, probably because of the devil's influence.

St. Thomas Aquinas (1225-1274)

Philosophy finally revived in the form of scholasticism--the logical examination of the questions of faith by a group of philosophers called the Schoolmen, that began in the 11th century. They rediscovered Greek philosophy and psychology, especially Aristotle. He became the supreme authority for them. They were divided into 2 camps; the Platonic Franciscans and the more intellectual Aristotelian Dominicans. The mystical Platonics such as St. Bonaventure did not like the threat to faith that they saw in Aristotle's logic, but the Aristotelians, of whom St. Thomas Aquinas was one, thought that Aristotle proved the truth of Christian teaching. The Aristotelians won the battle; Aquinas reconciled Aristotle with Christianity and tried to use reason to prove the truth of doctrine--Aquinas became the official Church philosopher. Whenever philosophical considerations conflict with revealed truth, Aquinas sides with faith. At this time, psychology was dominated by Christian doctrine. All psychological explanation had to be in line with Christian teaching, especially with regard to morality. There was a great deal of superstition, and mental illness was thought to be the result of demonic possession or a witches curse.

Thomas Aquinas was an aristocratic Italian. He was ascetic, pious, intellectual, capable of intense and prolonged concentration, very busy all the time. He was concerned to defend the importance of reason against people who argued that only faith could allow truth. His *Summa Contra Gentiles* is aimed at non-Christians whose rationalism prevents them from being believers--he gives logical arguments about the reality of faith, proving the existence of God. Here are his proofs, largely based on Aristotle: Change and motion are everywhere--something, the unmoved mover, must be changing and moving things. Everything that exists does so because of something else--so there must be a first being,or a first cause, who necessarily exists. There is design in nature,so there must be a designer. Finally, where there is better there must be best, and since there are degrees of perfection and goodness, there must be a best thing, which is God. In his *Summa Theologica* he expounds Church doctrine--in 21 volumes. One day in 1273, 3 months before he died, he had an experience during Mass that made him stop work on the

Summa. He said that what had been revealed to him made his writing seem as straw. Presumably this was a numinous experience that broke through his intellectualism.

Aquinasís work is largely based on Aristotle, Augustine and Galen. He tries to reconcile Aristotle with Christian teaching. He wove Christian faith into Aristotle, and promoted the idea of the dualism of soul and body. He writes about the psyche in an Aristotelian fashion, dividing it up into: vegetative functions, which means everything automatic; sentient functions such as perception, and appetite: and rational functions such as memory and reason. He thinks that there are two kinds of intellect--one type is the "possible intellect," which is about understanding, judgment, and reasoning about perceptions, while the other, the agent intellect, enables us to abstract ideas and concepts from our perceptions. We can know through faith things like the mystery of the Trinity that cannot be known through reason. The "agent intellect" is the part of the soul that lives on after death--the intellect is immortal. This is how he reconciles Aristotle's refusal to allow an after life with Christian doctrine. He is definitely not a Platonist--he does not believe in innate ideas--as in Aristotle, the mind of the infant is a *tabula rasa* that extracts ideas from experience. Before Aquinas, Aristotle was considered to be somewhat heretical; after Aquinas had finished with him, the study of Aristotle became mandatory in Christian universities.

Aquinas categorizes the emotions: some desires arise from the concupiscible appetite and some from the irascible appetite--a dichotomy found in Plato and Galen. When the concupiscible appetite is aroused by something good, we feel love, desire, joy; when it is repelled by something bad we feel hate and sorrow. When the irascible appetite is aroused by something good we feel hope; when by an evil thing we feel anger. Pleasure and pain are the basic emotions.

Aquinas wants to reconcile faith and reason; he wants to use reason to prove the truth of Catholicism, but mysteries such as the Trinity and the Incarnation can only be known through faith. Therefore we need a combination of reason and revelation. This was a comforting idea, but it did not provide a great basis for experimental psychology--his ideas that the higher functions of the intellect are immortal and some types of knowledge can only be gained by faith and revelation do not lend themselves to experiment. Even though these ideas may be correct, the materialist psychologist does not like them. Here he conceptually separates science and revelation, which begins the great religion-science debate. The problem he left the Church was that before him it had relied on faith; after Aquinas it had to respond to reason and argument. Aquinas had struggled to reconcile Aristotle with Christianity, but initially the Church did not like his synthesis--they finally gave in to it during the Reformation (1517) in order to survive.

The Papacy could no longer rely on obedience and faith as a source of authority, which began to erode, until to keep people in line the doctrine of papal infallibility had to be pronounced in 1870.[38] Aquinas died at the age of 49. His work tended to freeze psychological thinking for a long time because of his authority.

Another important figure of this time is Roger Bacon (1214-1294), who was one of the greatest medieval scientists. He emphasized systematic observation, reliance on mathematics, the importance of experimentation, and inductive and empirical methods. This was a dramatic contrast to the attempt to validate truth by logical arguments, which is the side of Aristotle that the Church preferred, ignoring Aristotle's own interest in observation. Bacon got into trouble with the Church because he attacked the ignorance of the clergy, and was in prison for 14 years. He even thought that he could learn from the heathen Arabs, who taught him a great deal. (See also Albertus Magnus).

The scholastics were dogmatic and hopelessly compromised by their commitment to Christian doctrine, which prevented knowledge from advancing. They also became stuck on convoluted applications of Aristotle's logic, to the extent that they became obscure and wrapped up in terminology--their work contains much pointless argument about terminology. They did not seem to realize that terminology only reflects the way things are--it does not explain them.

Like the Greeks, most medieval thinkers believed that human reason could know absolute truth. They also believed that God's truth and the truth of philosophy were the same truth, and Aquinas had synthesized them in the *Summa*. But the more mystical Franciscans such as St. Bernard of Clairvaux denied that philosophy could know anything about God, who is only known through faith. Most medievals believed that human concepts correspond to an underlying Form or essence--an idea in the mind of God. (Plato, Aristotle, Aquinas)--this is called metaphysical realism. But some, like William of Ockham, thought that these kind of universals were just names--this is called nominalism--and they have no transcendent reality.

The question of universals was raised by Abelard (1079-1142), one of the greatest medieval

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[38]The other things that eroded the authority of the popes were money and politics; the monarchy began to tax the Church, which led to a confrontation in France (Philip the IV vs. Boniface). There followed a period of rival popes, tremendous corruption, and the selling of indulgences and bishoprics. The papacy never really recovered its prestige and power.

philosophers. A universal is a concept that can be applied to any number of things or qualities--eg colors, hardness/softness. The question is whether there are universals that are independent of the things that exhibit them--can redness exist beside things that are red? 3 positions emerged: The realist view is that universals are real, and they exist independently of things and people. The realists are also called idealists because they believe in an ideal reality. The opposite view is nominalism, which says that universals are just names to describe things. Abelard suggested a middle position--conceptualism. If I say that Charles is a man, then "man" is a name or concept that we apply to him--it is not a transcendent Form. A concept is a mental image or label that exists in the mind, not an eternal Form. So, universals exist in the mind--but the question is whether mind *itself* is universal. It seems that the nominalists were able to shake free of the neo-platonic idea of an ideal one-ness, and this move towards the more human levels of knowledge helped the move to the Renaissance.[39]

William of Ockham (1285-1349), a nominalist, helped to lead philosophy out of the Middle ages into the Renaissance. Ockham revived empiricism and skepticism. One of the main reasons that he is important is that he was able to separate faith and reason--he pointed out that we have no ground in experience for saying that we have an immortal soul; this idea comes from faith. Ockham actually made observations of the world in order to test knowledge, which is very different than the approach of most medievalists. Such an empirical attitude is bad for theology [40] but good for the development of science--it makes people study the physical world rigorously, which happened in the Renaissance. Ockham was also an early psychologist in the modern sense. For most medieval philosophers, psychology was conflated with ontology, or the study of existence itself. They followed Plato, who thought that what was real had to correspond to the Ideas; Aristotle thought that what was real was real essences; for medievalists what was real were ideas in the mind of God. For them, as Plato had said, real knowledge was what could be deduced from universal principles. But Ockhamís empiricism challenged all this. He said that knowledge begins with acts of "intuitive cognition," by which he meant direct acquaintance with an object in the world--this gives us *real* knowledge of what is true or false about the world. From this knowledge we may derive abstract cognition of universals, but these are only mental constructs--they have no existence outside the mind, and we can make up a concept like a mermaid that does not really exist. Instead of worrying about how a person can participate in the transcendent Forms, Ockham asked how we can form universal concepts when we only know

[39]The medievalists thought that human knowledge and Holy Truth are the same, so that universals correspond to divine ideas, but if universals do not reflect divine ideas but ordinary human concepts, then how do we justify what we know and show it to be true, without reference to the Forms?

[40]Ockham was accused of heresy.

individuals. He suggested that the mind sees similarities between objects of the same type, and based on these it can classify them. Therefore a universal is simply a logical term that indicates the relationships between objects.

Because Ockham was also a Franciscan, he is not a strict empiricist; he also believed that we could have direct introspective knowledge of the soul, rather than only reflecting on what we do. For him, the soul can know itself directly--the soul is not distinct from its faculties, or its mental acts (unlike Aquinas). The soul does not *have* the faculty of will or intellect, but what we call will is a name for the soul in the act of willing, just as thinking is the soul in the act of thinking. This move is typical of his need to simplify; Ockham thought that people were too concerned with categories and classifications. He said that we should use the fewest number of ideas as possible, and avoid using more concepts than we need. This principle became known as Ockamís razor. The simplest argument is often the best.

Physical science begins in the 14th century, and the scientific attitude with Roger Bacon (1214-1292), a Franciscan, and Grosseteste (1168-1253).[41] Although Bacon and Grosseteste had tried to reconcile reason and faith and science, after Ockham religion began to be taken less seriously; people had to justify their claims to knowledge, and science starts to win.

After the death of Aquinas, things tended to petrify psychologically. The Black Death (mid-14th century) and the Hundred Years war (1337-1453) did not help. By the 15th century, social changes were beginning in earnest. Gunpowder made castles less useful, and the feudal system started to fade. Printing, developed about 1450, meant that one could study outside the Church and not be bound by it. The Renaissance is typically dated about mid-15th century with the rise of an educated, rich commercial class who were secular and political, in the city states of Northern Italy in the 14th and 15th century. Questioning of the Church doctrine then began in earnest because it was seen to be corrupt. The inquisition was horrifying, rationalism had begun, humanity rather than God became important, and explorers opened up new trade routes. The great Catholic synthesis did not work; instead, scholasticism died and critical inquiry grew--the foundations of modern science began. Between 1440-1550 arose Machiavelli, Erasmus, Columbus, Magellan, Da Gama, the printing press, Caxton, Gutemberg, Leonardo, Alberti, Luther, and Calvin. In the 16th and 17th centuries, science got going--Vesalius in anatomy, Copernicus, Galileo, Vesalius, Harvey, Kepler, and Shakespeare (1564-1616). Copernicus

[41] Another major pupil of Ockham was Nicholas of Autrecourt--the Church did not like him either; they made him burn his own books.

(1473-1543) said that the Earth goes round the Sun--this shattered the medieval world view; he even tried to verify the idea by observation. Later Galileo confirmed this discovery, and Kepler realized that the orbits of the planets were elliptical not spherical.

Meanwhile the end of the Middle Ages is often dated at 1277, because that was the year that the Church condemned a school of thinkers in the University of Paris led by Siger of Brabant, who accepted Aristotle's naturalism rather than Christian dogma.[42] This Aristotelianism threatened Christian teaching because it allowed a view of nature that was independent of God. For most of the 13th century the Church tried to suppress Aristotle; the Church eventually condemned Siger and all Naturalist philosophers. Naturalism could only be made safe for Christianity if reason and faith were separated.

The Renaissance

The word Renaissance is a 19th century idea, just as the idea of the Middle Ages is a Renaissance idea. It was traditional to divide world history into various ages, such as the Classical age of Greece and Rome, the golden age, and the Middle ages or the dark ages. However, modern historians don't see such sharp breaks--renewal has been going on at least since 1000 AD. But a new culture did arise in the mid 15th century, although it had been brewing since 1300 with Petrarch, who began to reclaim the classics; he is said to be the father of the Renaissance. Ficino (1493-1499) translated Plato and neo-Platonic writings, and interpreting them mixed with Christian thought and Hermetic ideas. (See also Nicholas of Cusa, Bruno, della Mirandola.) Instead of looking at Plato only to find God's truth in him, some Renaissance thinkers tried to understand Plato himself. The Renaissance peaked about 1500, which is the beginning of modern history. The main point about the Renaissance is the change of values that appeared, especially *humanism*, or the secularization of our understanding of nature. Thinking became less God-centered. Higher education became available to many people beside clerics--public Universities began in the 12th century in Italy. But the Renaissance was also a bad time--it did have a shadow; there was great social dislocation because of the long 100 years war between England and France, mercenary armies pillaged the countryside, the Black death (1348-1400) killed 25,000,000 people, and various famines killed many more. Mobs attacked witches (especially between 1400-1700) and Jews. Perhaps because of these brutalities, de Montaigne (1533-1592) denied the uniqueness of human beings and the humanist tendency to put humans as the lords of creation because of their intellect. de Montaigne said that we are only

[42]Naturalism is the view that the universe is not dependent on supernatural beings; there is no supernatural realm, no discarnate souls or immaterial forces. All phenomena can be explained in terms of natural events that can be explained scientifically; a mechanical explanation of nature is enough.

animals, reason is not that reliable, the senses cannot be trusted.

For many thinkers of the Renaissance, the body was a machine. For example, Leonardo da Vinci (1452-1519) studied anatomy, engineering and art, visual perception, perspective, and depth perception. Like Aristotle he relied on perception and direct experience, and he was an empirical scholar of nature. Nature philosophy began at this time, which was an attempt to explain everything naturally. This pushed thought in a secular direction. Eg, it was realized that a magnet attracted metal not because of magic but because of some quality of the magnet--although they had no idea of the mechanism involved. (Later, Newton had the same problem when he discovered gravity).

The Renaissance model of the world included the idea that all things are linked in a large order that can be deciphered through resemblances--the walnut is like the skull, so head injury is treated by giving walnuts. We must seek out resemblances, sympathies and similarities; the body is like the universe, the mind is like the invisible world; we are a microcosm of the macrocosm. The body is worldly, but the soul is angelic; mediating between the rational soul and the fleshy body are the faculties such as imagination and common sense, which are in the brain as subtle animal spirits that link body and soul.

The revival of learning in the Renaissance played a big part in the development of the Reformation; people began to question Church teaching and many heretical sects challenged the authority of the Church. There is debate about the causes of the Reformation, which was a Protestant revolt against the authority of the popes. The popes had too much power; they were threatening the identity of the nations that were emerging because they owned such huge amounts of land that they stopped the consolidation of the monarchies in Europe, so the politicians wanted dissension within the Church to weaken it. As well, the intellectual atmosphere in Europe had revived, especially with the Renaissance, and the abuses of the Church were becoming all too clear. The Reformation divided Europe into two sides.

Martin Luther (1483-1546)

Luther had been raised in an atmosphere of strict discipline and sombre piety. There seems to be a clear relationship between his depressive anxieties and his theology, which sounds as if he projects his harsh superego onto God. As a young monk, he suffered tremendously from guilt and uncertainty, and he tried hard to live up to the rules of his Augustinian order. But nothing could alleviate his guilt, which led him to much anxiety and despair. He felt Godís judgment

keenly, and believed that God punished sinners severely. God could be feared but not loved. The problem was how to attain purity of heart rather than simply being obedient outwardly. In his autobiography he describes his inability to please God, and how he hated this God, who seemed so punitive. Finally he decided that that God justifies by faith, which was a huge relief to him. Salvation was attained by grace, as a divine gift, that Godís forgiving mercy is shown in Jesus, and that his conscience could be forgiven and cleansed, which would allow him to serve God with joyful obedience.

Luther wanted a personal religion that was introspective, Augustinian, not emphasizing priesthood, hierarchy and ritual; for him the Bible was supreme over tradition. He believed in predestination--God's will is the cause of everything; most of what we need to know is in the New Testatment. Faith justifies us, not works--good works do not cure an evil soul, and we are all evil; to purify the soul we must renounce the flesh. We enter heaven through tribulation.[43] Catholics responded with a counter-reformation based on Aquinas; the Jesuit order began with Ignatius of Loyola. Bloody wars were fought; both sides were extremists, and philosophy was caught in the middle. In the 17th century, Descartes was to be caught up in this battle with charges of heresy.

History of Psychology, part 2

Trying to be Sure About What We Can Know

Lecture Notes of Dr. Lionel Corbett: Private Distribution Only

The Scientific Revolution: Bacon, Galileo, Copernicus, Kepler, Hobbes, Newton

The 16th and 17th centuries established the value of empirical science at the expense of speculation and metaphysics. The 17th century began the scientific revolution, and the new thought of this period contributed to the political revolutions in America and France that implemented a radically new world view. For the medieval and Renaissance thinker, the cosmos was organized in a hierarchy from God to angels to people to animals to matter--the great chain

[43] Also important at this time is Erasmus, another reformer and critic of clerical abuse and dogmativ theologians; a Renaissance genius born in 1469 who mocked the hypocrisy of the contemporary morality. See also Calvin, Zwingli.

of being. But in the 17th century this view was replaced by a scientific, mathematical and mechanical view of the cosmos and the body[44]. The effects of this new science on the psychology of the culture was profound. In a way the founders of modern psychology include scientists such as Copernicus, Galileo and Harvey[45], not only because they began the revival of real science and a coherent way of studying the physical world, but because they made people look at the human being in a different way.

With regard to what we now call psychology, things were still confused at this time. When we look at some of the major thinkers of this period, we see the emergence of different trends that still dominate discussion in psychology. The way we study psychology depends on how we view the person. Here there are two attitudes; do you study outward behavior, or do you study mental life, consciousness itself? Can we define these things, and can we study them empirically? Basically, the answers to these questions are philosophical. There are two broad approaches; the empirical approach uses the methods of physical science that measure things, and the other is more qualitative, phenomenological-hermeneutic, exploring what it is like to be human, our subjective experiences and the imagination.

We could date the beginning of the Scientific Revolution to 1543, when Copernicus's *Revolution of the Heavenly Orbs* was published posthumously--this work announced that the Sun was the center of the solar system, not the earth. This discovery was an example of the new scienceís challenge to the authority of the Church based on experiment and reasoned argument. The Church taught the Ptolemaic[46] view of the universe that put an immobile earth at the center

[44]By 1800, many people believed that the universe and the body were complicated machines operating by means of natural processes--reason and experiment were more important than faith and devotion. As this happened, the old idea that humanity and the world are intimately related gradually disappeared. In our time, we are trying to recapture this sensibility.

[45]Harvey was an English physician who discovered the circulation of the blood and the role of the heart. In this way he refuted the theories of Galen, and helped to lay the foundation for modern physiology.

[46]Ptolemy, 100-170 CE.

of the universe, with the planets and stars orbiting the earth. Further out were the fixed stars, and beyond that was a sphere whose rotation caused the whole system to move. Copernicus--the canon of a Polish cathedral--decided on a heliocentric universe to explain planetary motion; in this model, the earth goes round the sun. The Church recognized the danger of this idea to its authority, especially at a time when its authority was already struggling with the emergence of Protestantism. Copernicusís book was placed on the *Index of Forbidden Books* in 1616, because his idea meant that humanity was not the center of the universe, an important idea to the Church which taught that humanity was the special creation of God. It is often said that the age of reason began at this time, which provided an alternative to religious doctrine based on faith[47]. Copernicus produced a revolution in thinking that was continued by Darwin and Freud.

Galileo (1564-1642), a professor of mathematics at the Universities of Pisa and Padua, showed that only Copernicus's heliocentric view would explain the data of his astronomical observations. This got him in trouble with the Jesuits, who had just been founded to defend papal authority. Galileo questioned a fundamental Aristotelian distinction between the physics of the heavens and that of the earth. Galileoís observations of sun spots (1612) were a problem to the Church, because doctrine said that the heavenly bodies were different from earthly bodies, in that only the earth changes and decays, but the sun and stars are perfect and changeless, and move in perfect circles. Theoretically therefore, the sun could not be blemished, but when Galileo noticed dark spots that looked as if they were on the surface of the sun, he realized that the sun was not perfect. The spots varied from day to day, and seemed to move from west to east, irregularly. Some people said they were actually planets, but Galileo interpreted the spots as on the Sun itself. The opposition said that since the heavens were perfect, the spots could not be on the sun but might be on the lens of his telescope.

[47]The English physicist Lord Rutherford said that there are only two kinds of science, physics and stamp collecting. Because empirical observation was so successful, physics gradually became the queen of sciences, so that when psychology became an independent science at the end of the 19th century, everyone wanted to copy the physicists--this is called physics envy.

Galileo built his first telescope in 1609, but his colleagues would not believe what he saw through it; one of them refused to look through his telescope at the moons of Jupiter, because the Aristotelian tradition believed that they could not exist. The moons of Jupiter were a problem for the Church because they were committed to the sacred number 7; there are 7 planets, days of creation, days of the week etc, and Galileo ruined this scheme. In 1610, Galileo discovered the phases of Venus, which also contradicted Ptolemaic astronomy. In various ways therefore, his work was a huge challenge to the established religious and philosophical views. The Church was concerned about heresy, and the Aristotelian professors were particularly threatened by Galileo, because Aristotle had also taught that the sun travelled round the earth. Aristotle believed that only perfectly spherical bodies could exist in the heavens, and nothing new could ever appear there. Accordingly, these philosophers united with the local Dominicans who accused Galileo of impiety and secretly denounced him to the Inquisition for teaching contrary to scripture.

Galileoís contemporaries did not believe that the telescope was suitable for viewing the heavens, even though it was useful on earth. They had no experience with the telescope, and did not know that it was reliable. But this invention had great psychological implications; it meant that human activity is subject to mechanical laws; the telescope is an extension of the eye; people are instruments, too. The fact that mathematics works to predict movement means that we can examine the environment as a source of motivation, as well as internal states such as the will. Galileo humself realized that qualities such as motion and position are subject to mathematical analysis, whereas qualities like taste and color are more subjective and internal--this distinction will later raise important conceptual problems.

Galileo not only challenged traditional teaching about nature, he also challenged the idea that there are two kinds of knowledge, one about heaven and one about earth. He said there is only one type of knowledge and it applies in both places--this too upset the Church. By denying

Ptolemy, Galileo was accused of denying scripture, but he pointed out that the Book of Nature was another source of truth about divine revelation, and the Bible was metaphorical truth. This strategy did not work. Galileo was forced by the Inquisition in 1633 to recant his teaching about the physical truth of Copernicanism--they did not mind the mathematical truth, as long as he did not teach it as literal truth! But his writing was widely influential, and he is credited with helping to free scientific enquiry from philosophical and theological interference. .

Kepler (1571-1630) also supported Copernicus's view of the universe. He proved that planetary orbits are not circular, as Copernicus had thought, but were elliptical. He showed that planets nearer the sun moved faster than the outer planets, and derived the laws of planetary motion mathematically. The creator God now became a mathematician; God used the laws of mathematics to create nature, and we can peer into the mind of God by studying science. This is a very important turn; it begins the notion that we can understand the world mathematically; the world becomes a complicated machine; God wrote the Book of Nature as well as the Bible. Kepler believed that since the physical world is expressible mathematically, the psychological world must be, also. Enter the seeds of the idea of psychological testing and measurement!

Newton (1642-1727) was the mathematical genius who started much of modern physics. He invented the calculus, studied optics, and developed the laws of motion: objects remain at rest or in motion unless acted on by a force; a change of motion is proportional to the strength of the force acting on an object; and to every action there is an equal and opposite reaction. He discovered the idea of gravity as it affects planetary motion. Newton's laws of motion made the universe a clockwork machine. For him, for Galileo and Descartes, God was the master engineer who made the clock and left it running. But with this analogy the universe became cold and impersonal. Newton linked Galileo's mechanics and Kepler's laws of planetary motion into one scheme, but religious leaders did not like it; it was too mechanical a view of the universe, without enough room for God, although many people simply believed that God is the author of

the Book of Nature and we had finally been clever enough to read it. These early scientists did not just abandon earlier beliefs; Newton was an alchemist and an astrologer, and Galileo drew on medieval philosophy for some of his ideas--he still thought that the planets moved in circular orbits, even though Kepler had shown them to be elliptical. Copernicus used Aristotelian physics.

Meanwhile, Harvey discovered the circulation of the blood in 1628; Gilbert discovered the magnetic compass in 1600; Boyle discovered the relationship between the volume of a gas and its pressure, and in 1643 Torricelli invented the barometer. In 1690, Leeuwenhoek discovered the microscope, and in 1661 Malpighi discovered capillaries.

Thomas Hobbes

A bridge between the emerging empirical science of the 17th century and contemporary thinking is found in Thomas Hobbes (1588-1679, who was one of the founders of the British empiricist[48] tradition. Hobbes was a materialist who prefigures contemporary behaviorism. He believed that all knowledge is derived from sensory experience; sensation gives rise to ideas that become associated with each other. Only matter and motion exist--sensation is produced by the experience of the change in motion of objects in the environment; eg, we know light and dark by their contrast. He constructed a mechanical theory of the universe--he wanted to explain everything in terms of motion, using Euclidean geometry--a person is matter in motion; society consists of people in motion. People are just machines operating in a mechanical world. In Hobbesís *Leviathan*, he also uses a machine metaphor for society; just as we discover physical laws, so we discover social laws based on rigorous science. A clear link to behaviorism is seen in chapter 6, where he says that human beings are motivated by the desire to seek pleasure and

[48]Empiricism is the idea that experience is the source of knowledge.

avoid pain. Appetites and desire cause motion, and motion inside the body is trying to satisfy the needs of the body. Only body can affect body, and only matter in motion can be studied scientifically. He tried to prove that human behavior corresponds to natural laws. Hobbes completely ignored the moral and spiritual dimensions of being human.

For Hobbes, mind acquires knowledge by associating individual sensations that occur together in time and space into a sequence of ideas, which are then stored as memory. Thinking sequences are also based on external sensation, and are directed by desire. He was influenced by Harveyís discovery of the circulation, and postulated that the mind could be explained in terms of the motion of blood to and from the heart. Dreams are thought sequences that are not regulated by sensations. (Its not clear how sensations that are physical turn into thought.) There cannot be free will; what we call will is just the alternation of desire and aversion in relation to the environment. Hobbes believed that what seems to be benevolence, altruism and regard for other people is actually the result of what we gain from this behavior, and how it makes us feel. We really only value what gives us power; the worth of a man is his power; our desire for power motivates us towards science. According to Hobbes, our personal happiness is our root motivation. These are narcissistic ethics, but here are the seeds of individualism and the idea of the need for personal growth. Hobbes is famous for saying that life is "solitary, poor, nasty, brutish, and short," although he was a happy man and lived to be 91

Francis Bacon

Hobbes was influenced by the Elizabethan Francis Bacon (1561-1626), who was one of the main early figures in the scientific revolution. Bacon reorganized scientific thinking; he tried to be totally naturalistic and get rid of theology and teleology. In *his Novum Organum (A New Instrument*), 1620, he wanted to eliminate the preconceived ideas that were inherited from Aristotle, and instead study the world using controlled observations that are inductive--we

proceed from many particulars to general theories that we then test empirically in order to validate by more observation. He insisted that we should not accept ideas that cannot be tested through observation. This approach began the British empirical tradition of psychology that continued with Locke and ended up in behaviorism.

What helped to create psychology as a separate field in this period was the growing distinction between the world as we experience it and the world as it is detected with scientific measurements. Aristotle and medieval thinkers said that what we experience corresponds to something in nature; things that seem beautiful really are so. But then it was realized that some properties of perception depend on the perceiver--some people are color blind, so color cannot exist in nature itself but in the ways our eyes work. Therefore, we can separate primary qualities that are in the object with secondary qualities that are subjective; science is interested in objective qualities, independent of human biases. The question then arose: how do secondary properties arise in us? In what way is the world radically different than the way we experience it? Another problem is that, if the world is just created by the way the brain works, then there is no beauty or joy apart from the brain--so a much colder way of thinking about the world began to develop. As psychology moves from speculation to empirical enquiry, it takes on a more mechanical approach.

Eventually, behaviorism developed because subjectivity became too difficult to study mechanically, so people focused on behavior that can be measured. To me this move seems to have its narcissistic roots at the time of the scientific revolution, in that science was increasingly impressive, and measurement seemed to be superior to the old methods of enquiry, so to keep up with the frontier psychology had to develop a scientific persona. Somehow the new empiricism seemed ìbetterî than trying to understand the inner life, so that the baby of subjectivity was thrown out with the bath water of superstition and demonology.

RenÈ Descartes (1596-1650

As traditional Aristotelian science was discarded, so was traditional philosophy. In this process, Descartes (1596-1650) was very important. Many people believe that Descartes articulated the way we think about the modern self. Many thinkers since Descartes used his ideas as a starting point, even if they disagreed with him.

Descartes has to be understood within his Christian framework. He was educated by the Jesuits, and he was dedicated to Christianity. The climate of his time included religious conflicts between Protestants and Catholics, and controversy between the Church, an advocate of Aristotle's views about nature, and those who supported the new findings of Copernicus and Kepler, who argued against the scholastics. Just before Descartesí birth there had been terrible wars between the French Catholics and the Protestant Huguenots. The Church was harsh in its authority, trying to suppress heresy with the Inquisition[49]. (Ironically, in the long run none of the theologians approved of Descartes; the Calvinists did not like his support of free will as opposed to their idea of predestination, and the Catholic Church eventually placed his books on the Index of Forbidden Books--which at least helped to make him famous.)

Descartes was a gifted mathematician; he invented analytical geometry. He also studied physiology, and dissected the brains of animals to try to explain memory and imagination. He wanted to provide a brain basis for mental processes--he believed that nerves were hollow tubes through which animal spirits flow that account for movement. He reaffirmed the observations of Copernicus that the earth moves round the sun, but he was taken aback by the Church's condemnation of Galileo's support of Copernicus,and to avoid conflict with the Church he did not publish his findings[50]. To avoid trouble with the Inquisition, he decided to work out the

[49]The Inquisition began in 1233 and did not die down fully until the 18th or 19th centuries.

[50]Even though Decartes did not want to publish anything that went against the Church, the Church eventually

philosophical basis of his science first. Descartes did not want to surrender to total skepticism about what we can know--some people had turned to skepticism because they despaired of finding certainty, but Descartes was desperate to find certainty.

Descartesí Christian worldview had been altered by the Reformation and was being changed again by the scientific revolution. In 17th century Europe, puritanical Protestantism had appeared; God was increasingly remote, and power over nature was explained by science rather than magic. Descartes was one of a number of Catholics who were worried about Renaissance naturalism, which explained the world without needing to invoke the supernatural--eg, it was realized that magnetism was merely a power in metal. This was a frightening thought to people who were brought up to think that matter is inert, and that the only the soul allows movement. A huge challenge to religion had appeared from physiology; if the brain could think and know, then the existence of the soul was not needed. Up till the Middle Ages, it was assumed that psychological functions like thinking were a property of the animal soul as well as the body. Descartes was worried about the attempts to make the brain responsible for thinking, because he did not want matter to be sentient--he wanted to leave a role for the soul. Descartes did not like the new ideas about magnetism and gravity; he believed that matter was inert. Since only God has power, matter could have no power itself. Descartes wanted to reduce mental functioning to purely mechanical processes so that he could preserve the functions of the soul. (Ironically the materialist project that built on his work tries to deny the soul.) For Descartes, the soul is exempt from materialist mechanisms, so he has to find a way to preserve Christian ideas of the soul in a mechanistic universe. How does he do it? He preserves a province for God in the face of the new science by splitting reality; the material world is inert, but the soul and God are spiritual entities, somewhat detached from the world; science can have matter, religion is in charge of the soul and God. (Later, Spinoza and Leibniz are to join matter and the soul.) Meanwhile we have

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decided that he had done so, because he denied personal memory to the soul, as we will see.

here an example of the power of intrapsychic splitting projected onto the environment.

Descartes had to avoid two heresies, both of which were the result of trying to assimilate Aristotle with Christianity. One was Averroism, which denies the immortality of the personal soul. AverroÎs[51] (a Spanish Islamic scholar, 1126-1198) was an interpreter of Aristotle who splits mind from body and then identifies mind with soul. But, this kind of mind is Aristotle's mind, which is only general knowledge, and is not the immortal essence or soul that is the Christian essence of the personality. According to AverroÎs, the soul is a divine inner light that illumines the mind and then reunites with God at death. But Christianity wanted the soul to be oneís *personal* essence, not only an inner divine light. Because Descartes denies personal memory to the soul, he fell into Averroism, and his books were placed on the index of prohibited books in 1663.

The other heresy he had to avoid was Alexandrianism, after Alexander of Aphrodisias (Athenian, about 200 AD; also a commentator on Aristotle); this drops Aristotle's distinction between form and matter, and says that the matter of the brain can itself perceive, remember, think and know. Like Averroism, Alexandrianism denied the immortality of a personal soul.

In his *L'Homme*, Descartes distinguishes the human soul from the body by virtue of the soul's power to think and reason, which is a traditional view going back to Greece. His new idea is that thinking separates human experience and makes it different than animal experience. He believes that animals do not have reflective awareness of their awareness; in other words, they have simple awareness but not self-awareness. The difference is like being aware that we are

[51] AverroÎs believed that we can discover metaphysical truths either through philosophy, as taught by Aristotle, or through religion. AverroÎs did not actually propound the existence of two kinds of truth--philosophical and religious--but Christian thinkers interpreted him to mean this. He rejected the concept of a creation of the world at a certain time, because he maintained that the world has no beginning. God is Aristotleís ìprime mover,î the self-moved force that stimulates all motion, who transforms what is potential into actuality. The individual human soul emanates from the one universal soul.

driving or driving while talking to someone, when the driving is automatic. For Descartes, an animal is a kind of machine that responds automatically or reflexively, and the body is like a mechanical device. Only humans respond in novel ways by thinking about situations differently. (This kind of flexibility is the hallmark of mind for William James, too). Descartes sometimes says that animals do not think, or at least they do not think the way people do because they do not have language, which is crucial to Descartes. The driver thinks about what is going on linguistically--at a traffic light, a person can think and say "red means stop," but an animal would just stop. So the person does not just *have* the experience, she *thinks* about experience reflectively and with language. Descartes thought that there is an innate language of the mind that is deeper than actual human languages--we can say "red means stop" in many languages, but they all link red light to "must stop."

This idea is controversial; some people link thinking with language, while others do not. Chomsky proposed Cartesian linguistics, which says that language is a unique property of the human mind only--his student Fodor said that all humans have a universal inner language, called ìmentalese." This idea attacks behaviorism, which does not divide humans from animals. It aligns people with computers, which do use language. (More of this later.)

In 1633, Descartes stopped writing *L'Homme* and gave up physiology, because he was afraid that his work might be condemned, like that of Galileo. Instead he tried to first work out a philosophical foundation for his work that the Church could accept. Unless he did so, he felt that his work would be potentially too dangerous for him.

He wanted to create a *method* of knowing the truth in science--he was convinced that true knowledge must come only from reason. People were realizing that Aristotle had gone wrong because he did not have a good method to investigate nature. Descartes tried to give science a good method, and an epistemological basis, in his *Discourse on the Method of Rightly*

Conducting One's Reason and Seeking Truth in the Sciences, 1637. He adopted the method of radical doubt--he systematically doubted all his beliefs until he could find some belief that was so self-evidently true that it could not be doubted. He tried to find reasons for believing in commonsense truths--reasons for believing what was intuitively obvious, to provide a good basis for his research. He also tried to find a firm basis for knowledge, rather than simple personal conviction; he realized that opinion does not equal knowledge. For Descartes, truth had to be as clear and distinct as the elements of mathematics. First he outlined four rules: Never accept anything except clear and distinct ideas; divide each problem into as many parts as are needed to solve it; order your thoughts from the simple to the complex; always check thoroughly for oversights.

The problem he faced was that the impressions we obtain from the outer world are not in themselves evidence that there *is* an external world. (This is a problem of knowledge, of epistemology.) What part of our knowledge of the world can we trust? Our senses can deceive us; people can be psychotic; how can we be certain that everything we see and do is not part of a dream? In Descartesí words, an evil demon may be tricking us; in modern terms, we could be like the people in the movie The Matrix, brains hooked up to a computer that gives us sensory imput that makes us feel as if there is an outer world. He approached this problem by doubting everything that could be doubted, to see if he could find a secure foundation for knowledge. He found he could doubt the existence of God, he could doubt the validity of his perceptions, and so on--but he could not doubt that he doubts, that he thinks, because if you doubt that you doubt, you make the doubt real. Doubting is a form of thinking--hence his *cogito ergo sum*, which he thought was the first principle of his philosophy. (The logical error is that thinking is going on, but that in itself does not prove the existence of a thinker; "it is raining" does not mean there is someone raining.) Descartes does not doubt that he is thinking, because he is a thinking type--he doubted everything but his reason. (For Descartes, thinking means all mental activity, including feelings or other mental contents.)

Eventually he only recognizes as beyond doubt the contents of his consciousness, so he has to find a way to put the world back, some way of leading out of himself. The idea of God does this for him. Descartes has to prove the existence of God in order to know an outer world. He finds the idea of God in himself, and the fact that he has this idea means to him that there must be something to which the idea corresponds[52] (rather a dubious proof). A finite creature could not have given rise to the idea of an infinite God--this idea must have been implanted in him by God himself--it is the mark of the maker on his work. This certainty of the existence of God allows him to be sure of the existence of the outer world. God would not deceive us about the existence of an external world--deception would mean that he is not perfect--there is no evil demon that is deceiving us. If God is not a deceiver, then we can consider our information about the external world reliable. Said another way: The only sure fact is the fact that we have experiences, and we have knowledge of ourselves. This defines the self in terms of subjectivity, and makes the self the most certain thing, while the existence of the external world could be questioned. But a perfect God would not trick people in this way.

It was not new to prove that the self must exist because of the existence of mental activity. Augustine had already said "if I am deceived, I exist." Parmenides had said "it is the same thing to think and to be." What Descartes said that is new is his emphasis on self -reflection, his *focus* on the self. He turns inward and finds what becomes the modern sense of the self, although is is too much to say he created the idea of the self, which had existed for a long time. Descartes' idea that consciousness could be studied is crucial for the development of psychology; his *cogito* creates consciousness as an object of study. Prior to the Scientific

[52]Decartes uses a variety of the ontological proof of the existence of God, also used by St. Anselm. This argument rests on not on the basis of facts, but on conceptual premisses. ìPerfectionî is part of the meaning of ìGod,î and and ìexistsî is part of the meaning of ìperfect,î so it is illogical to say that a perfect God does not exist. This argument was shown to be fallacious by Kant, who pointed out that the word ìexistsî is only pretending to be a predicate in this sentence; that is, it does not affirm the quality of an object on the basis of a fact. The word ìexistsî must refer to something to be meaningful; this sentence assumes the existence of what it tries to prove.

Revolution, people assumed that the world was as it seemed to be; they lived through ordinary experience. If you look at a red book, in the old view you assume that the book is really red; but once you think about redness itself, *you* (the self) are introspecting about a conscious experience--*the self is then divided from conscious experience.* If you separate primary and secondary sense properties, some of what you see is in you rather than in the object you see--you cannot then believe naively in the validity of experience. This means we can step back from experience and look at it as a collection of sensations that are not *part* of the self.

Dennett (1993) (*Consciousness Explained*) calls Descartesí model of the mind the Cartesian Theater; the self is the viewer, who looks at a screen on which the visual stimuli from the retina are projected. What the self sees is not the red book but the projected image of the book. When you introspect about a red book, you think about the subjective image of the book rather than the book out there. Conscious experience can then be examined as if it were a thing, using inward observation. This is the birth of the psychology of consciousness as a collection of sensations projected into the mind by the senses--people then started to study sensations themselves, experimentally. Experience itself became an object. By splitting consciousness and the self, a certain style of psychology becomes possible.

Descartes wants to know how the world is in itself--we cannot just assume it is as we experience it because the self is trapped in the theater, just getting projections of the world--consciousness is purely subjective. To really know the world we must purge subjectivity; for this reason we can study psychology so that we can subtract subjective contributions to experience, leaving only the objective truth about the world. Enter the idea of scientific objectivity.

According to Descartes, the self is like a mathematical point that does not occupy space, but it is in space, and it just thinks. According to Descartes, our soul or essence is a small, self-

aware point of pure thought, detached from the body and from experience, receiving sensations second hand about the world by means of projections in the theater. The point-like self has to control and report on experience; it became the ego of Freud. But, such a small point is easy to get rid of; later Hume could not find it, and Kant thought it was only a logical necessity. In behaviorism there is no need for a self or for consciousness at all--*we can just study what we do, not what we are.* To think of the soul as a point is radically different than thinking of the person as an embodied soul (which includes the animal soul) connected to the world by experience (eg Aquinas).

Descartes believed that our consciousness is distinct from the outer world of material substances and objects, and that all knowledge of the outer world is in the mind. You cannot trust the senses; they make sticks look bent under water. (Gassendi retorted that this is like saying that you once had a bad experience with food so you will never eat again). For example, if you melt a lump of bee's-wax, it changes shape, but we know it is still wax; therefore we know the truth of the wax through the mind rather than relying on the senses. Consequently, *res cogitans*, thinking substance or subjective experience, is fundamentally different than *res extensa*, or the objective world of extended matter, the world outside the mind. But, Descartes also believed in innate ideas, which do not come from experience, such as the idea of a circle, the idea of a perfect being, the self, and of God, time, space and motion, are not derived from experience but from the essentially rational properties of the mind. We are capable of perfect notions, such as the idea of a perfect triangle or circle, even if we cannot find perfection in an imperfect material world--this means there must be an immaterial author of perfection--God

For Descartes, with the exception of the soul and God, all reality is physical and can be explained mechanically. The physical universe is a machine created by God, that moves on its own. Matter is not alive; it can be analyzed into its component parts, and it is measurable by quantitative means and mechanical laws. Only reason lies beyond mechanical explanation, so

there are two levels of activity in the world, the physical world of matter and a spiritual world that we access by our reasoning. Human reason can analyze the world uncontaminated by spiritual qualities (here is the place for science), since the world and the mind are separate from each other and from God. Physical substance is extended in space, which is its essence, while the essence of mind is thought, which is unextended and has no physical properties; the problem is how they interact, since there cannot be any contact between mind and body--a hammer cannot hit an idea. (Note that there is no way to arrive at this idea from his method! It is a purely intuitive leap.)

The idea of the absolute separation of mind and matter or body and soul did not begin with Descartes. It goes back to St. Augustine (5th century CE) or even to Plato (4th century BCE). Dualism (which means that there are two fundamental things or concepts, neither of which can be reduced to the other) of one kind or another has been at the heart of western thinking since the time of the Greeks--the early atomists such as Democritus and Leucippus drew a sharp distinction between mind and matter. From them we have inherited the idea that everything can be divided into these two contrasting, mutually exclusively aspects, even though there were some Greek thinkers who were not dualists (such as Heraclitus.) Unfortunately, dualism is built into western languages, where we always need a subject and an object to describe an action. But one of the problems with dualism that Descartes himself was ultimately unable to solve was the riddle of how mind and matter can interact with each other if they are so different in quality--how can something that is not material interact with matter? Mind-stuff consists of thoughts and feelings, whereas matter is about spatial molecules. Descartes suggested that mind and matter meet in the pineal gland, because that was a single structure in the middle of the brain. This idea points to the brain as the transitional agent between the spiritual agency of the mind and the physical body. He thought that this gland transmits physical stimuli to the soul, and transmits impulses from the soul to the body. The soul can tilt the gland in various directions, which directs the movement of animal spirits in the nerves, which makes

the body move. Nerves were tubes that carry animal spirits to the brain; sensory nerves project onto the surface of the pineal gland, so the soul can sense. The soul is connected to all parts of the body, and by acting on the pineal gland the soul produces mental events such as thinking and feeling. For Descartes, the soul is the thinking thing; it is a spiritual substance totally without matter and completely separate from the body. This is a radical dualism in which soul and body are completley different--the soul lives in the body which is purely mechanical--the soul receives sensations from the body and the soul then makes the body move. The body is an expression of mechanical law. The emotions are rooted in the body, and are reflexes that respond to the stimulation of our senses by the environment. Descartes therefore has a two world theory; the material world and the body is objective and measurable by science. But, the world of consciousness and mind is another world--this is subjective, known through introspection; this is the world of a person as a thinking being.

All kinds of suggestions were made to deal with the mind-body problem raised by Descartes[53], and it had many consequences. A modern form of dualism developed in medicine. Instead of seeing mind/body as an inseparable unit, materialistic physicians only look for biological causes of illness and ignore the psyche. The field of psychosomatic medicine assumes

[53]Here is a brief overview of some solutions to the mind-body problem. Descartes was an interactionst; this attitude is that mind and body can be distinguished, mental events can cause physical events, as we see in volition, and physical events cause mental events, as we see in sensation. However, it is argued that, if energy were to be transferred between the two systems, there would be a violation of the law of the conservation of energy. There is also a problem with the word ìcauseî here! As we will see in the philosophy of Hume, there is no necessary connection between cause and effect. Epiphenomenalism says that everything that goes on, including mind, is the result of physical changes in the body--the brain secretes mind, as it were. Because our physicality is a closed system, all physical changes are the result of physical changes only; mental events do not cause changes in the body. Science measures the wave length and frequency of light; we see colors; colors are an epiphenomenon.
Spinoza believed in parallelism. Each event has a mental component and a physical component, and neither is an explanation of the other; they correlate with each other. But do all physical events really have a mental correlate? This theory requires panpsychism--there is mind in everything. The occasionalism of Malebranche said that mind and body appear to interact because God causes a constant correlation between them, so that when I touch a pin God causes my mind to feel pain. If I decide to move my hand, God moves it. Leibniz later said that mind and matter run along constantly parallel lines that do not actually meet, but they are perfectly in tune, like two clocks, so my wish to move my arm occurs at the same instant as I move it. Therefore, it looks like one seems to influence the other but there is really no interaction. This problem is said to not be a problem by people who deny that mind and body are two different things.

that mind and body are different but they interact with each other, so that emotional stress produces changes in the body. This kind of thinking is unthinkingly passed on to students. Ideas are very powerful, and the idea that mind and body are distinct has done considerable damage, even though some people have argued that it may have been necessary for the development of science. Descartes teaches that the study of the mind belongs to psychology, while the body is the province of physiology. That idea really caught on.

Descartes did not develop his ideas in a vacuum; he inherited a traditional distinction between the soul, which was divine, and the body, which was mortal. Descartes' radical distinction between body and mind became an everyday, commonsense way of looking at things, and it is a distinction that still permeates the thinking of many psychologists. This mind-body split fit very well with the thinking of the Church fathers, for whom only spirit matters--an attitude that led to a devaluation of matter, the body, the feminine, and the earth. Conveniently, this split meant that the Church could take care of the soul and science could focus on the body. At the same time, the suggestion that mind and body are radically different allowed the development of the idea that the mind is *only* a product of the brain, although an absolutely rigid dualism logically means that the mind cannot be fully reduced to the brain. But, this materialist solution to the mind-body problem is simple, and it seems plausible to many people. If nothing exists except matter, then what we call mind is identical with brain functioning. This idea gets rid of the problem of understanding how two different things can interact, because there is only one thing. Mind is what we experience when the brain is working. It is ironic that Descartes himself was not a materialist, and his ideas were worked out in an a way that affirmed the reality of the soul and of God. But subsequent materialists drew from his ideas at the same time as they criticized him.

Descartes' splitting of soul and body was in accord with the scientific revolution that questions the validity of perception and thinks of the world as a machine. His ideas spread

widely in spite of two difficulties. One was the problem of how mind and body interact, which he decided met at the pineal gland. But there is still a problem of other minds; if my mind is a point that thinks, locked in the body, how do I know that my soul is not the only one in the universe? How can I know if anyone else has one? Descartes responds by pointing to language--any creature that possesses language thinks and has a mind. (But if animals do not have souls, yet they can learn language, perhaps people do not have souls.)

By reducing mind to a point, by making experience the result of mysterious consciousness, by assuming that there was a place in the brain where experience happens, and by creating the problems of other minds and mind-body interactionism, Descartes dug a deep hole for psychology. But his influence was very great--he created the idea of psychology as the study of consciousness, and his materialistic psychology is the basis of modern neurophysiology. He prefigures Wundt in his interest in the experimental psychology of consciousness.

Biographical Notes

Some people have suggested that Descartes' ideas reflect his experience of loss in infancy[54]. His mother died when he was a baby, and he was raised by his father and a stepmother until he was 9, then sent to a Jesuit boarding school. His father was absent a good deal, since he was a member of the Brittany Parliament, which lasted six months a year. When Descartes was four, his father remarried. Descartes was apparently a sickly child, and the doctors thought he would not live long. The experience of loss leads to grief; perhaps the embrace of abstract concepts replaces the lost parent; the search for lasting Truth transcends the loss. He learns to depend on the self alone, like Jung. He tended to remain emotionally aloof from people, and to

[54]Scharfstein, 1980, *The Philosophers: Their Lives and the Nature of their Thought*; Oxford University Press. Dyer, 1986, Decartes: Notes on the Origin of Scientific Thinking. *The Annual of Psychoanalysis,* xiv, pp. 163-76.
Eisenbud, 1978: Decartes and Shaw; Some Spatial Aspects of Object Loss; *International Review of Psychoan.*, v, pp. 285-96.
Storr, 1972, T*he Dynamics of Creation.*

apparently not need others--he seems to be a thinking type, devoting his life to reason.

There is a famous dream of Descartes that was reported after his death (see Stern, 1996, *The Flight from Women,* p. 80-81.) In the dream, Descartes is walking along and sees phantoms; he is so afraid of them that he bends over to the left side, because on his right side he feels weakness, and he cannot stand upright. He is embarrassed to walk like this, so he tries to straighten out, whereupon he feels a strong wind that seizes him like a tornado, whirling him on his left foot in a circle. He sees a college, and goes in to find refuge; he goes to the church to say a prayer, when he notices that he has passed a friend without greeting him; he wanted to turn back to show his politeness, but he was prevented from doing so by the wind that blew towards the Church. At that moment he saw another man in the middle of the courtyard of the College who addressed Descartes politely by name and told him he has a melon to take with him to see Mr. N. Descartes thought the melon was from an exotic country. He was astonished to see that the people who had gathered around him to talk were all able to stand upright on their feet, while he was still bent over and staggering, although the wind had diminished considerably. This dream has the theme of standing upright, depending on himself, walking by himself.

He was 24 at the time of this dream. This and 2 other dreams herald his decision to devote his life to the quest for philosophical truth; we see the chaos and insecurity underlying the need for certainty in the dream. Perhaps this is why he begins with profound doubt, and his philosophy stands on the idea that true science rests on axiomatic principles, from which, using rational rules, irrefutable principles can be drawn. He searches for security; he is blown about by forces outside his control, afraid of collapse. Early loss in infancy leads to difficulty with trust, which needs the sense that the baby is in good hands. Descartes' search for truth may be the result of a search for something he can rely on, to try to resolve his grief; the melon and the church may be maternal objects, offering nourishment and shelter. There is a fury in his mind, and he needs to stabilize his sense of self and his sense that the world is reliable. So, truth is not

found in fluctuating sensory perception but in the mind, which is more constant; wax melts (*Meditations*), yet it remains the same wax, despite the evidence of the senses. He masters his world intellectually, but he in the process he splits thought from feeling.

Sometimes, histories of psychology begin with Descartes, which begs an important question: it assumes that psychology is the science of the "mind," and all kinds of phenomena such as feeling, thinking, behavior, experiences, memory, etc., are all united in that they belong to one thing--the mind. But to talk of the mind itself presupposes a mental-physical split. We don't think today in terms of substantial dualism--mind is not a substance; instead, modern thinkers talk of mental states in terms of consciousness and intentionality rather than substances, but consciousness *itself* is a Cartesian idea, which is why some people prefer to think of mind as intentionality (eg Donald Davidson). But however we parse it, psychology today rests on the distinction between mind and body. Descartes begins the idea of psychology as introspection, he begins dualism and the idea that the mind acts on the body to produce behavior, and he begins the idea that human behavior (except thinking) is the result of physiological processes. Descartes also began a tradition in psychology that focuses on the mechanisms of sensation--this is a theory of mind that is called sensationalism[55], which essentially reduces mind to sensations; for this tradition there is no such thing as mind itself.

Descartes divorces humanity and the world and breaks up the coherence between them; existentialists later try to repair this split (as does the theory of synchronicity); humanity and the world are not two entities but a single reality of man-in-the-world; there is no gulf. We are part of the world and we know it through the senses; we are not bounded by the body; knowledge means interaction between subject and environment. But Object Relations theory is Cartesian;

[55] de Condillac (1715-1780) tried to explain psychological activity based on sensory experience alone. He did not like the idea that the mind had innate ideas; he thought that the mind is derived from sensory experiences--a purely physiological mind.

the model of Object Relations theory is of a subject in a world surrounded by the contents of the world but essentially separate from the world. Self psychology is more of a field theory.

Blaise Pascal

Descartes prefigured the rationalism of the Enlightenment, but Pascal (1623-1662) prefigures the existentialists. For him, doubt leads to worst doubt; he hated Descartesí rationalism and only derived solace from his faith in God. Pascal was a child prodigy mathematician who invented a calculating machine to help his father, a tax official, with his laborious calculations. The implications of this were serious; the human mind could be mimicked by a machine, unlike what Descartes had said. Therefore Pascal said that free will, not reason, distinguishes people from animals; the heart, not the brain, makes us human. For Pascal, what is essential in humans is not reason but will and faith that come from the heart. He had an anguished need for faith--he was fervently Christian, and a supporter of the Jansenists, a 17th century Calvinist group who taught man's total sinfulness, salvation through the predestination of God, grace as the sole means to salvation, and the need for faith that can never be proved by reason. Pascal was very austere and self disciplined, and tried to exclude all pleasure and vanity from his life. In his *PensÈes* (1670, p. 44), he says that he strives "only to know my nothingness"--it sounds as if he is fairly miserable; he thinks that our natural state is sickness, corruption, wretchedness, and dependence, that of a prisoner in chains, sentenced to death. We can only divert ourselves from these facts, never overcome them. He says that when he sees the blindness and misery of man, who is abandoned and lost, he becomes terrified (p. 105). Divine love is the only resource in a chaotic and hostile world. Reason has its own uses but is useless for religious purposes.

Biographical Notes

Pascal lost his mother aged 3; he probably felt abandoned and betrayed, and seeks security through faith[56]. We see the need for an emotional anchor in his work. (Hegel said that the purpose of philosophy is to make us feel at home in the universe). The Church becomes mother; perhaps the warmth of divine love helps with the loss of his mother. In the *PensÈes* he writes about how wary he is of forming attachments to other people, and how he dislikes others becoming attached to him. He says he cannot be loved for his beauty or intelligence, since these can be lost; but he despairs at being loved for himself alone--here he sounds like a child without a mirroring selfobject (p. 47; p. 211, p. 70), although he is said to have been close to his father. Although he was a brilliant thinker, towards the end of his life he felt that his thinking could not answer his deepest needs; he says in his meditations (number 3, vol. 1 p. 168): "If someone loves me for my judgment or my memory, do they love me? Me, myself? No, for I could lose these qualities without losing my self." It may be that as a child he was loved for his mind but not for himself; perhaps God would love *him*, rather than his abilities. But, Pascal believed that "there is a corruption of nature" that makes people unworthy of God. Pascal had a famous wager; if we bet on God's existence, we gain infinitely if we are right but lose little if we are wrong. So act as if you believe, then you will be a good person.

. Spinoza

Baruch Spinoza (1632-1677) was born in Amsterdam. He was raised in an orthodox, Portugese Jewish family that had escaped to tolerant Holland to escape persecution. His family were merchants, respected members of the Jewish community in Amsterdam. At that time, the new philosophy of Descartes was all the intellectual rage, and Spinozaís work can in part be understood as a response to Decartes, whom Spinoza studied in detail. He was unhappy with Descartesí notion of Godís transcendence, and also his mind-body dualism. Spinoza was also

[56]Nelson, 1981: *Pascal: Adversary and Advocate*.

very influenced by Hobbes.

Spinoza did not believe in the personal God of the Hebrew Bible--for him God is impersonal. He also antagonized the religious authorities by pointing out that there is nothing in the Bible to suggest that God has no body, or that angels (as distinct from visions of them) are real, or that the soul is immortal. He believed that the author of the Hebrew Bible did not necessarily know physics or theology better than did contemporary people. This attitude led to his excommunication from the Amsterdam Jewish community, which I suspect was painful for him.

For Spinoza, God is *synonymous* with nature; we cannot distinguish between them. Humans are a part of both God and Nature. God is the underlying principle that unifies everything, including matter and mind, because God *is* all things; God and nature are a single substance that is self-determined. It makes no sense to speak of God as the creator of nature as if they were two different entities; if we ascribe to God perfection and omnipotence, then to say that this being created something is nonesense--to create you have to lack something. If God is infinite, there cannot be anything that is not God. If God is not nature, then God must have a boundary or limit. The world is eternal; time only applies to that aspect of God that is this world. There cannot be final cause or teleology; this is a projection of human feelings of purpose onto nature.

Spinoza begins with the idea of substance,[57] defined as something that exists independently of anything else, something that cannot be caused or explained by anything else, because it is its own cause. For him, there can only be one such substance, which is God, who is

[57]The idea of substance is a term of some dispute in philosophy. Traditionally, substance means something that exists independently--it requires nothing else for its existence--and which persists through change. Plato and Aristotle used the term (*ousia*) to mean being in the sense of essence, or existence, as distinct from becoming, and the term became controversial in later thinking. Perhaps everything is dependent on something else in some way. Is there some ground to things that does not change? Is this energy? Is energy substance, or substance energy?

the whole of nature. Spinoza denies that God is transcendent, but accepts the traditional idea of God as a necessary being; for Spinoza this being is the whole universe. People, things and mountains are modes (or inseparable parts) of substance, within it as a wave is in the sea--wrinkles in the larger cloth. Substance shapes itself with two aspects--as mind and matter, which are inseparable; the mind is the idea of the body. Since there is nothing outside Spinoza's substance, it does not have to be explained in terms of other causes; there is nothing outside it that makes it what it is. We can think about this substance in two ways; as nature, it is physical and occupies space; as God it is intelligent--these are its two attributes of extension and thought. Extension is the embodiment of thought, and thought is the idea of extension. These attributes refer to the same thing, but just don't appear to us as the same. There are no two Cartesian substances and no interaction--whatever happens to mind happens to matter as a different mode of the same event. Mind and matter are two different aspects of the same substance (note the difference from Descartes); the mind is a subjective manifestation of the body, while the body is the external manifestation of the unity of the individual. This is an attempt to offer an alternative to any kind of dualism--we describe different aspects of our experience as mind and body. There is a mental correlate for every physical event, and a physical correlate for every mental event[58]. This sounds like a theory of synchronicity. A human mind is simply that part of the mind of God that is the consciousness within a human body. This sounds like a prefiguration of Jungís idea of the interpenetration of the personal and the objective psyche.

Spinoza is often called a pantheist[59], but this is an oversimplification. He does not say that God is *confined* to nature, rather that God has an infinity of attributes, of which we only know two in our world, so God is infinitely larger than our world order, which is just part of God's vast nature.

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[58]This is called psycho-physical parallelism.

[59]Pantheism is the doctrine that the universe is identical to God, in contrast to the Christian dualistic idea that God transcends the universe.

Unlike Descartes, Spinoza could not find a logical reason to assume that matter, mind and God were distinct categories. He felt that if God was the author of all, his presence had to be in all. Also, if God is the cause of all things, then there cannot be human free will[60]; just the fact that we know good and evil means that we are not free, otherwise we would not know the difference. The fact that we *feel* as if we act freely is an illusion caused by our not knowing what the causes of our actions are. We are only free to the extent that we can think clearly and deal with our environment. For Spinoza, everything is predetermined; we have to accept things--there is no free will except to accept what happens to us by understanding how we fit into the big picture. But we can go along with what we are supposed to do--cooperate with the inevitable. What makes it hard to do this is our passions--they mislead us and stop us accepting how things are--the passions derive from our desire for self-preservation. The desire for self-preservation motivates us; we struggle for survival. Spinoza said that all desire involves seeking pleasure and avoiding pain. The conflict of different desires causes emotions, which have both physical and mental aspects, although they are a unitary experience. When we react under the sway of passions, we are passive; to be active we have to understand our passions in the wider system of causes and effects, and find our place within nature--reason must prevail over our emotions if we are to attain any freedom in our actions. For Spinoza, a passion is a feeling that we have no clear idea about, whereas an emotion is a feeling shaped by a distinct idea, when we really understand what is happening; therefore rage is a passion, while love for others is an emotion. The more we act out of active emotion rather than passive passion the less we are in bondage, and we have a kind of freedom. This attitude leads to acceptance, which makes us happier. We must be clear about what we are dealing with so that we act out of commitment rather than compulsion. To be clear means that we realize that whatever is the case must be so necessarily; we have power over emotions to the extent that we understand things as

[60]Spinozaís denial of free will caused outrage because it seems to deny moral responsibility and the appropriateness of blame and punishment. But he does not deny the social necessity for punishment.

necessary.

Since there is no personal God, we must try to live an ethical existence by striving for virtue based on natural law. Spinoza said that we love Nature but we do not expect Nature to love us back; therefore we can love God but it is meaningless to expect that God will love us back. (This might suggest a rather remote experience of his parents' love for him. It didn't go down well with the theologians.) The most elevated of the active emotions is the intellectual love of God, based on a grasp of the nature of the world as a whole. He got in trouble with the theologians because he said that nature can do what God can do since God *is* nature; there is no immortal soul; human actions are determined ahead of time; there is no afterlife. Nevertheless, his attitude to the world is a highly spiritual one even though there is no overt piety in his work. He has awe and respect for the world, and a dignified humility; his work tries to reconcile science and religion, since he redefines God as the universe that science studies.

Spinoza experienced several deaths early in his life. He lost his mother at the age of 6 (Hampshire, *Spinoza*, 1976), his half-brother at the age of 17, his sister at the age of 19, his stepmother when he was 21, and his father at 22. At the age of 24 he became estranged from the Amsterdam Jewish community because of his religious views. It is not clear how these losses affected his philosophy, but it may help to account for his eventual attachment to nature, which offers him some consolation. Spinoza saw people as irrational; we can discern his typology from the fact that he felt that feeling is a form of bondage, while freedom comes from thinking, and happiness from understanding the cause of things. It sounds as if he uses the mind to defend against his feelings of loss, and he steadies his emotional life using the mind, like Descartes. Emotional turmoil is mastered through reason, and by perceiving the underlying unity of all things. It seems clear that the control of feelings was so important to Spinoza that he seems to have suffered from isolation of affect. His psychological ideas are very important because they introduce the idea that finding the hidden source of feelings and actions is liberating because it

allows us to be truly ourselves. This is one source of psychoanalytic ideas.

His thinking was so important to Spinoza that he endured social isolation, excommunication, and the loss of his family because of his ideas. Not only was he excommunicated by his synagogue because of his religious ideas, but the Christians did not like him either. Like a real thinking type, Spinoza says he is driven by the desire for truth, and what is true is deduced from the intellect. He sets out his book on *Ethics* as a geometrical proposition[61], with axioms and definitions, from which he tries to deduce the conclusions that follow. Throughout his work, he has an attitude of the primacy of the intellect, although he also values intuition highly[62].

Spinoza was an accepting type, given his tragic losses, something of a lone wolf, detached, careful and restrained in the expression of his emotions, buried in his study for long periods, unlike his contemporary Hobbes, who was a very cheerful atheist with a gloomy view of human nature and the universe. Spinoza said: "I have striven not to laugh at human actions, nor to weep at them, nor hate them, but to understand them." The Enlightenment types did not like his apparent pantheism, although they liked his independence, while the18th century Romantics did not like his denial of free will, although they liked his mystical streak and called him "God intoxicated." The tension between reason, passion, freedom and determinism found in Spinozaís work is very much a part of modern psychological thought.

John Locke

John Locke (1632-1704) was one of the initiators of the Age of Enlighenment. He

[61]Spinoza was very familiar with geometry, since he supported himself as lens maker. He died as a result of chronically inhaling glass dust.

[62]Our intuitive knowledge of God is the source of the spiritual love of God, which in turn is a part of the love in which God loves himself.

developed a philosophy that became very influential because it seems to be common sense. Locke was a friend of scientists such as Newton and the chemist, Robert Boyle, as well as the great physician Thomas Sydenham. Locke himself trained as a physician but he was more interested in politics and philosophy. He was very worldly and empirical in his attitude--he disliked metaphysics. The empirical attitude is that everything we conceive of has either been experienced or is constructed out of elements that we have experienced[63]. This was a revolutionary attitude in his day, because it says "do not blindly follow authority or convention; look at the facts and think for yourself." This idea provides the foundation for liberal democracy and modern empirical research. It dominated Voltaire, helped spark the French Revolution, and in America the founding fathers thought of Locke and referred to him when they drew up the Constitution. Locke is part of the movement to see the world as great machine subject to the laws of mechanics.

His main work is *An Essay Concerning Human Understanding*, 1690, in which he asks how the human mind works, how we gain knowledge, where we get our ideas from, and how certain can our knowledge be; what are the limitations of our knowledge? Lockeís theory of knowledge denies that knowledge can be innate; the mind of the child is a blank piece of paper, and all ideas come from experience. We cannot understand the world by reason alone; we must reflect on our direct experience of the world. The senses deliver knowledge to us, and the senses

[63]From the 17th to the late 19th century, the main issue in epistemology was the question of whether we acquire knowledge by means of reasoning about the world or by means of sense perception. For the rationalists, Descartes, Spinoza, and Leibniz, the main source and final test of knowledge was deductive reasoning based on self-evident principles, or *axioms.* For the empiricists, beginning with Bacon and Locke, the main source and final test of knowledge was sense perception. Locke attacked the rationalist belief that the principles of knowledge are intuitively self-evident. He argued that all knowledge is derived from experience. This can either come from experience of the external world, which stamps sensations on the mind, or from internal experience, in which the mind reflects on its own activities. Human knowledge of external physical objects is always subject to the errors of the senses, so that we cannot have absolutely certain knowledge of the physical world.

have their own authority. Our experience of things comes into us from the sense organs--this is a copy theory of cognition--and we also think about what comes in. We form complex ideas by combining simple ones. This is a different theory of mind than that of Descartes, who said that senses deliver knowledge but their information has to be interpreted by reason before we can know the world. For Descartes an idea is fundamentally intellectual, for Locke it is basically sensory.

Material objects affect the mind through the senses, which give us ideas about the objects, from which we build up our picture of the world. For Locke, an idea is everything present to the mind--thoughts, feelings, pains, sensory images, memories. That is, what Locke calls an idea we today would call a representation in the mind. When we think about something that we are not actually perceiving at the moment, we have to have something like a sensory image of it--thought is produced by combining these images in the mind. But our senses only give us limited knowledge of things; they tell us that things exist, but not their nature or essence. We know the world is there but we don't know what its really like. He rejects absolute skepticism, but he retains some degree of it.

The problem is that there is a contrast between the knowing mind and the world that it tries to know; the separation is unbridgeable; the mind is insulated by a screen of ideas, and it only experiences these ideas. Real knowledge would happen if our ideas were to correspond to the material world. But how do we know if they ever do? Can we be certain? Do we ever perceive directly and not by means of representations in the mind? According to Locke, whatever might be the answer to this question, what we take to be knowledge is unaffected, because what we can predict remains predictable. Knowledge is a matter of verification, which takes place within our experience; whether this experience *is* the real world or is just a screen of ideas does not matter. (He did not realize that the way we think is also conditioned by societal pressure and by language.)

His work contrasts with Descartes, who had found ideas in himself that he could not trace to experience, so he concluded that they were innate, even though not necessarily fully formed; he thought that people are born with a disposition to develop these ideas. Locke thought that even abstract notions and ideas can be traced back to experiences on which we have elaborated. But Locke also postulates some innate mental machinery--for him, the mind is not like an empty room; it uses experience and converts it into knowledge by *processing* information. Direct experience gives us simple ideas that are elaborated by our mental machinery into complex ideas--we associate by linking sensations (by logic or by chance) to form perceptions, and then we reflect on the things that we sense. However, we only know things from a certain point of view, which gives us an idea about the object. Locke saw that in our imagination or memory we can have ideas of absent objects, which is why his theory is one of representation as opposed to direct perception. An idea represents the object to the mind; it mediates between the mind and the material world. Locke also realized that language was a human trait, and he believed that personality was innate, as are the human motive to be happy and avoid misery. He believed in intuitively self-evident propositions, such as the difference between colors. But these kind of things are not about innate *truth*--we *deduce* consequences from what is self-evident.

Because all our knowledge of the outer world is mediated by our ideas about things, (which we would call representations), we don't have direct access to things as they are in themselves. We only know *about* things as they affect the sense organs. I have visual images of my desk, but this is not necessarily the same as desk itself. If the desk is brown to us, we do not know what the essence of brown is in the desk, only that it is something that causes us to see brown. But, we do not see the world in terms of things that "have" qualities such as brown, we just see objects. Because the desk has many qualities that exist together, we pick up the representation of a unitary desk by means of our various senses. So we acquire the idea of a thing that can affect other things.

How is it that we see a desk and not a jumble of pieces of wood and color? Locke said that there must be something that *is* the substance of the object, something that bears its qualities. There must be something that *is* brown or square or hard. We cannot say what this quality is, only that there must be something--we only know it by the ideas that it causes us to have. There is an underlying substance, but it is only known though its effects on us, through its qualities, and there cannot be just qualities without an underlying substance. The problem is that this substance causes our senses to send messages to the brain, but the substance is not the same as those messages; so how can we be sure that the substance exists? [64] Locke thought that it did not make sense to believe that all there is out there is a bundle of sensory qualities; he thought that the world is intelligible and governed by laws. But, how does he *assume* the existence of the substance of material objects without breaching the principle of empiricism, which insists that we have to experimentally verify such ideas[65]? As well, if all knowledge is mediated, or representational and imagistic, and we do not have direct knowledge of the world, how can we have science? Locke says we cannot--we only speculate, and our speculation has to arise from concepts derived from experience. He pointed out that even some of Newton's laws had some unintelligibility to them; eg, the inverse square law of gravity--an object attracts another object with a force that is proportional to their masses but *inversely* proportional to the *square* of the distance between them; this seemed to Locke like a brute fact but not an intelligible principle. Other laws, like the fact that a body moving at a speed will continue to do so unless interfered with, seemed intrinsically intelligible. This means that Newtonian science is not giving an account of the inner nature of things, which we cannot know; it only tells us how they behave. Locke thought Newton was describing and not explaining, an idea that Newton accepted when

[64]Later, Hume will say that we just have to put up with not being sure, and Berkeley will say that material substance does not exist at all without the mind.

[65]Locke is a dualist; for Locke, there are two fundamental types of entity in the world, minds and material things; we cannot know their inner nature, we can only experience what they do--but we cannot be sure about the distinction between what they are and what they do. Perhaps materialism is true and we are mechanical thinking machines with no immortal soul. Either we are material beings that think and feel, or there is something immaterial in us that thinks and feels--a soul. Both these propositions are unintelligible in the end, but one is true.

he said that he did not make hypotheses (*hypotheses non fingo*). Schopenhauer and Wittgenstein later said the same thing. Locke wants to burst the balloons of people who think they have already arrived at a deductive science. He supplied a (realist) framework to make sense of modern science, especially Newton, and also made people realize that we don't understand a lot of the world, that science is speculative. Locke thought that mathematics was an abstract science that we create, beyond our experience; it is non-empirical, not concerned with the nature of things at all, just with our ideas; we pick geometrical properties off things.

Locke distinguishes between primary qualities (that seem to be in the object) such as shape, motion and solidity, and secondary qualities, which are the ideas that the object stirs up in us, like color and taste. Primary qualities are objective, they are actually in the object[66], but secondary qualities are only there when we perceive them, or when they are excited in us. A rose would look like a rose--have its measurements--whether or not we were there, but it only smells sweetly if we smell it. Primary qualities are mathematically measurable or mechanical, and in a way objective[67]. This idea has had a major influence on science. The trouble with his primary-secondary distinction is that the primary qualities implicity require the presence of an object, whose existence he is questioning.

Since all beings are little machines that function according to laws of physics, they all have the same fundamental nature; there are no natural divisions into kinds of things, as per Aristotle who studied the essence of horses or cats as if there are natural kinds of things, with a real existence. Aristotle thought that we discover these natural divisions, but Locke says there are no natural divisions, only resemblances at the level of observation. All categories are man-made.

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[66]But how can a property of an object be independent of our peception of it?

[67]Locke was influenced here by Boyle's explanation of chemical change, which said that particles interact mechanically; they are little pieces of matter; this seems rational to Locke.

Lockeís discussion of personal identity is important; he agrees with Descartes that I know that I think, but Locke says that I do not really know my nature, because I cannot know what nature I have to have in order to be *able* to think. For Descartes, my identity is not a part of my body, since matter is in flux, so identity must have to do with the soul. At the time of the resurrection we would have the same identity. But for Locke, identity has to do with memory[68] and self-consciousness; I am aware of my history. Locke's idea of the self was rational and radically separate from experience itself, which the self can scrutinize as consciousness. This was a very influential idea in Britain and France. For Locke, the self is made up of a connected stream of consciousness rather than a soul, which scandalized the Church but might not upset a Buddhist. The self can not only observe what comes from the outside, but also observe itself. This is a big problem in psychology: Hume is later to say that there is no self, since the mind is just the sum total of all its ideas. Behaviorism extends Hume to say that there are no mental processes, only behavior.

True to his empiricism, Locke opposed the idea that there are innate moral principles that are the foundations of Christian morality, which teaches that God's law has been implanted in the soul. Locke was denounced as an atheist for denying these innate truths, but he realized that the idea of innate moral truths is the basis of Church dogmatism, which purports to know what the truths are. Locke tried to get rid of the concept of original sin--we cannot have it if the mind is a *tabula rasa*. In his day, maxims were taught in school, and students were told to first accept them and then prove them; by contrast, Locke advocated discovery through experience, keeping an open mind, instead of belief in maxims. He thought that we could make people into any shape we want to using the right education (sounds like Skinner). Many Enlightenment thinkers

[68]Locke said that the point of immortality is reward and punishment, but unless the thing that is punished in the after life is conscious of its deeds on earth, punishment is pointless; so what matters is not the soul but consciousness and its continuity. This means that for him the soul is not the same as consciousness.

believed that we can perfect humanity with education. Locke believed that our abilities are totally formed by the environment, not by heredity. This idea has political ramifications, and Locke's political views were influential; he believed that government must govern by the consent and authorization of those governed, and he argued against the divine right of kings. He believed that people have natural rights to free choice, and to own property by working for it.

Biography

Locke was the son of an attorney; his father was said to be stern, unbending, taciturn, distant and severe. But nevertheless, they seem to have been close. We don't know much about his mother, except that she was pious and affectionate. He went to Oxford, but disliked the prevailing Scholastic philosophy which he thought was too abstract, obscure and useless. He is a definite sensation type, which helps to understand why, for him, all knowledge is founded on sensory experience, and why he believed that there is nothing in the mind that was not first in the senses. He believed that the world is made of minute corpuscles, which, when they strike the eyes and ears, cause sensation; he said that action is the "great business of mankind" (*Essay Concerning Human Understanding*, vol. 1, p. 387), and he said his philosophy could be proven by experience and observation--nothing intuitive here! (One peculiar thing about Locke was his passion with secrecy; he used codes, shorthand, and invisible ink. Some of this behavior was the result of political danger--he had to leave the country for a while because of his political views and because he opposed the Roman Catholicism of the monarch of the time. But he may have just wanted to be opaque.) Locke is important to psychology partly because of his connection to behaviorism and partly because he does think there is such a thing as a mind, even though he gets rid of the soul.

George Berkeley

Locke's dualism leads to Berkeley[69]. Berkeley (1685-1753) was an Anglican clergyman, an Irishman (eventually Bishop of Cloyne) who lived in Rhode Island for a while. (He donated money to Yale, and also influenced Columbia University.) He believed that ideas like those of Locke are pernicious because they lead to doubts about our ability to know the world reliably. Berkeley was worried that if philosophers doubt the most basic things that are obvious to the average person, then the ordinary person will start to doubt, and they may even doubt religious truth, leading to atheism. (*A Treatise Concerning the Principles of Understanding* [1710] and *Three Dialogues between Hylas and Philonous* [1713].) Berkeley was an idealist[70] who struggled to refute the materialists who were developing a tradition of rationalism combined with Locke's empiricism and the science of Newton and Galileo. This combination was leading to religious skepticism or atheism. Basically, Berkeley was a theologian who did not like the idea that the material world is independent, working on its own, even if it had been created by God. Locke drew a picture of the material world like a big clock that would keep ticking even if God was on holiday. This idea was anathema to Berkeley.

Berkeleyís main idea is that there must be a perceiving mind for reality to exist--the sensory world is dependent for its existence on mind; if all knowledge is derived from the senses, then reality only exists to the extent that a mind perceives it. Things only exist as ideas in the

[69]See J. O. Wisdom, *The Unconscious Sources of Berkeley's Philosophy*.

[70]Idealism is a theory of the nature of reality, and a theory of knowledge that says that consciousness, or the immaterial mind, constitutes the world. In metaphysics, idealism is the view that all physical objects are dependent on mind, and cannot exist apart from a mind that is conscious of them. Idealism is contrasted with materialism, which maintains that consciousness itself is reducible to brain processes. According to the materialistic view, the world is independent of the mind, and only composed of physical objects and their interactions. In epistemology, idealism is opposed to realism, which says that mind-independent physical objects exist that can be known through the senses. Metaphysical realism has traditionally led to epistemological skepticism, the doctrine that knowledge of reality is impossible. This result motivated theories of idealism, such as that of Berkeley, which contend that reality is dependent on mind, and that true knowledge of reality must rely upon a spiritual or conscious source.

mind or soul. For something to exist, someone has to perceive it; if no one perceives it, it does not exist. (This seems too counter-intuitive to be true.) All we know is that there are experiences and experiencing subjects--how can we claim that there are material objects out there[71]? Only perceptions and minds can be claimed to exist. Berkeleyís attack on materialism seems to be about his fear that it will endanger faith in God.

Berkeleyís position is that, if we feel pain because our hand is too near a fire, *pain* is not in the fire--heat and cold are sensations that only exists in the mind. Does sugar contain pleasure? Pleasure must be in the mind. We don't hear sound waves, we hear noises. Noise is the experience of sound. If sensory experiences only exist as ideas in the mind, then we cannot make Locke's distinction between primary and secondary qualities. Locke said that primary qualities, such as squareness or motion, really exist in bodies themselves, but Berkeley said that there are only secondary qualities; motion is perceived motion, form is perceived form. We cannot prove the existence of primary qualities that objects possess themselves. Nor can there be time, space or place outside a perceiving mind. If I ask you how you know that a table exists, you would tell me about your experience of it, what you observe; for Berkeley, your experience *is* the table--we just know about our perception of things, and hence his maxim that ìto be is to be perceived.î Ideas are not *copies* of anything, ideas *are* ultimate reality. We only *assume* that matter exists apart from our perception of it. (David Hume later takes this idea and applies it to mind, and then denies the existence of mind.) Here Berkeley is not logical; he says that my feeling the heat of a hot stove is the same as the pain, but it does not follow that heat and pain are the same thing.

For Berkeley, God is the source of our sensations. The table exists in the mind of God,

[71]Descartes and Locke had argued that there must be a material world, because otherwise God would be a deceiver, but they also believed in distinguishing between primary and secondary qualities. But Bayle had argued that if God is deceiving us about color (a secondary quality), why could he not be deceiving us about materiality as well? Since there is the possibility of deception, Malebranche advised having faith in the existence of an external world, but Berkely decided to just get rid of it altogether.

so its existence is continuous, and there is divine intention to produce table-like ideas in our mind if we are looking at it. Berkeley does not argue that the mind invents matter, since there is no independent matter. But then how can there be science? He answers that *all* scientific laws are just brute fact; they are God's order. God gives us all our experiences; the world is God's language to us; intelligible regularities like the laws of science and mathematics are the grammar and syntax of the divine language as it speaks to human minds.

It is very important to note that he says that the objects of our knowledge are the data of our experience; this precedes similar modern ideas. Popper said that, in this way, Berkeley was the precursor of Einstein--ahead of his time.

Berkeley's analysis of depth perception is important. We see objects as three dimensional, yet the retinal image is two dimensional; as distance gets greater, the retinal image gets smaller, but we see the object receding because we have learned to do so. Therefore, we do not see distance, we see qualities. How do two dimensions on the retina produce the experience of three? Berkeley said that other sensations help us to give cues about distance. We move our eyes together or apart as an object moves closer or more distant, and we have experienced a regular association between eye movement and distance. (Later, Kant will say that depth perception is innate, which is nearer the modern view.) If you hold a book at an angle, you still see it as a book. Actually you see a red patch on your retina; that is all we ever see; we have to learn that this is a book. Why then do we believe in external objects at all? Because our sensory world is a collection of sensations, and certain sensations are regularly associated. We believe in objects as things because of a learned inference only; we do not perceive matter directly. Repeated experience makes us interpret bare sensations as meaningful. Berkeley tries to get rid of Locke's dualism between mental processes and substance, or matter itself. Locke's substance is just being. When challenged by the famous question about whether a tree falling in the forrest exists if no one is present to hear it, Berkeley replied that things are always perceived in the mind

of God, so things exist indefinately even though they are only ideas. One of Berkeley's critics, Andrew Baxter, pointed out that if we only perceive our perceptions, and we can deny any necessary material cause to the perception, then what of God? If God is not perceived, by this criterion he must not exist, or he is only a perception in our minds?

Berkeley said that God is the reality behind sense impressions, just as Locke had said that substance was the reality behind them. One problem is that at the same time as Berkeley says that there is only mind and its sensations, he also tries to justify our belief that we have natural knowledge of the material world. For this he has to invoke objects as present in Godís mind. This preserves the reality of the world. He does not say that matter does not exist at all, only that it does not exist outside of mind.

By all accounts, Berkeley was psychologically healthy and happy; he was not worried about his own existence; he did not doubt it, so he could afford a theory like this. But his argument struck many people as absurd. We have to wonder if he had experiences of derealization. Later, rather than get rid of matter, Hume formulated a self that was void of substance--a depersonalized self.

David Hume

Just after Berkeley came Hume (1711-76), a Scottish Calvinist skeptic, who is one of the most influential philosophers of our time. Hume's father died when he was 2; his mother, to whom he was very close, lived until he was 34. He is known to have had a recurrent series of depressions from the age of 19-23. He seemed to have turned to philosophy to help himself, and he used this period of self observation to form some of the basis of his philosophy, which eventually led him to a cheerful detachment. His main interest in life was human nature, and this is where he is different than Locke--unlike Locke's *tabula rasa*, Hume thought that there is such

a thing as human nature, and human beings are not totally malleable or perfectible. Hume believed that people have passions such as self love, resentment at being injured, and sexuality, that are constant throughout history; human nature is always essentially the same. By aged 26 he had finished *A Treatise of Human Nature* (1739), which was ignored at the time. Later he wrote *Enquiry Concerning Human Understanding*, but this still did not get him recognition. Finally his political writing and his *History of England* made him famous, especially among French intellectuals, because of his unorthodox religious and political views--he was called the "great infidel." Hume was a very popular man with a great good nature and many friends. He wrote his damaging critique of religion *(Dialogues Concerning Natural Religion*--1779) in secret, and it did not come to light until after his death.

His central emphasis was on the problem of causality--the question of what causes something to happen. This is important because the cause and effect relationship binds our world together and allows us to live in a consistent world. We know that rubber balls bounce, because they always do so when they are dropped. But observation does not reveal any *causal* link betweeen dropping the ball and its bouncing; rather the constant observation of a link produces a habit of mind that expects to see a bounce. That is, we see A followed by B, but we do not see a causal link between A and B. How then do we know that A necessarily causes B? Day follows night regularly, but day does not cause night! The experience of connection generates a habit, and we project the expectation of B following A into the world, assuming that we perceive a causal connection between A and B when actually there is just an inference. B may follow A for some other reason, as day follows night due to the earthís rotation; we cannot *logically* verify a *causal* link between A and B.

Some critics of Hume tried to argue that nature is uniform, and that is why the ball always bounces when it is dropped; it is rational to infer that the ball will bounce each time it is dropped, and we know the science behind the bounce, which has to do with the physics of

elasticity in the rubber. Scientific laws are thought to be universal statements that rest on observation and experiments--but Hume points out that the logical link between a scientific law and an observation cannot be made. The usual example here is that Europeans thought that all swans were white until they reached Australia, which has black swans. That is, even if you repeat an observation or an experiment a million times, it does not follow logically that the next time will give the same result--there are no universal conclusions. You cannot logically derive a law from the observations that give it a basis--new data could change what we think of as an immutable law of science. This idea undermines the idea of science as infallible. In contemporary terms, there are some instances in which, if Einstein is right, then Newton was wrong, but Newton looked like the last word until Einstein appeared. Universal claims about nature can always be revised on the basis of new experience.

Science is based on induction-- the idea that we can base a general conclusion on the observation of particular instances--but Hume attacks inductive thinking. Induction allows us to understand the principles of elasticity that make the ball bounce, even if we cannot demonstrate that a rubber ball will always bounce with the same certaintly that we can demonstrate mathematical principles. Hume would respond that our reasons for assuming that the principles of elasticity will always true are of the same order as our expecting the ball to bounce next time we drop it. Our past experience of the principles of elasticity creates an expectation of the way elastic objects will behave next time. We expect the laws of science to remain constant, but we still have not solved the problem of how past experience justifies a conclusion about future behavior. To argue that nature is uniform is a disguised way of assuming that the point is proved. What grounds do you have for assuming the principle of the uniformity of nature to be correct? We have never been disappointed in the behavior of bouncing balls; but this is not a logical argument that rubber balls will always bounce[72]. It is just human nature to expect that the

[72]Bertrand Russell wrote a famous critique of induction: a turkey gets up day after day and wonders round the farm yard. Itís always the same; inductively the turkey expects each day to be predictable. Then one day itís Christmas.

ball will keep bouncing. When we hear the sound of a train, we expect to see the train coming because we have been conditioned to do so, not because of a necessary logical connection. I hit a billiard ball and it moves, but how do I know what caused it to move? It just seems to be my hitting it, because it always has happened that way, but my hitting and the ball moving are separate events occuring at different times; only habit connects them. This argument demolishes induction as a scientific method, undermines empiricism, and psychologizes science and causality; causality is not out there, but in the mind.

Hume wants us to respect pure experience and discourage talk about the world that is not based on experience. For him, mind is just a function of the sensations, perceptions, ideas, and emotions we are having at any given moment. There is no need for anything spiritual. We don't need Locke's mental operation of reflection; we make associations when sensations are linked because of similarity or because of contiguity. This is the principle of associationism, which is an empirical way of understanding the mind, but these associations do not give us reliable knowledge. Even our most ordinary observations of the world around us, according to Hume, involve our *imagination*--we do not passively observe the world, or we would just see sensation after sensation; we perceive *things* rather than bits of disconnected sensations because our imagination is constantly active; this means that there is no distinction between facts and theories--a very modern view.

For Hume, the contents of consciousness either come from sensations or from our ideas, which are based on sensations. Our knowledge is either based on the comparison of ideas, as is the case in mathematics, or on the facts that we obtain from the senses. Everything beyond that is derived from memory or logical conclusions about sense information. Since all knowledge is based either directly or indirectly on experience, no metaphysics is possible. Since our senses may deceive us, we cannot know anything about things themselves; we only know about things

by means of the imagination. Such skepticism[73] had a profound effect on Kant.

In this way, Hume pushed empiricism as far as possible, and practically destroyed it in the process. He doubted that we could discover the truth about anything at all. He was also skeptical about the idea that we have a self. He pointed out that all we are aware of is a series or sequence of impressions, and, as far as we can tell, this sequence of impressions is not attached to either external objects or an internal object called the self or mind. It is a *habit* to call a continuous thing inside us the self. We take it for granted that we have a self, that we are continuous selves. But we cannot locate this self in observation; when we introspect, we find thoughts, feelings, emotions, memories etc, but not an entity called the self that *has* those thoughts. Then why do I believe that there is an "I"? Habit. (Is he a crypto-Buddhist?) For Hume, mind is just a series of mental processes like thinking and feeling--it is not a Cartesian substance--thinking is thinking about something, there is no mind stuff that thinks, just as we cannot infer an eating substance when we are eating. Humeís interest in the self is very modern

There *seems* to be a self that believes in the continued existence of physical objects and people. If you close your eyes they disappear; when we open our eyes they look the same, but Hume would say that this is just a sequence of similar experiences--not an experience of identity. "I" confuse these two; but then there must be an I to be confused! As far as I can tell, this became an insoluble problem for Hume. Some of their contemporaries summed up Berkeley and Hume by saying: "no matter, never mind."

The implication of all this is that what we call normal is merely a set of habits; if you believe that fire will burn and the sun will rise tomorrow, you have reasonable beliefs, but some

[73]The 20th-century American philosopher George Santayana took Hume's skepticism further, in his *Scepticism and Animal Faith* (1923). Here he says that belief in the existence of anything, including oneself, is based on an impulse that is natural but irrational.

people have apparently unreasonable or delusional beliefs, and who is to say who has true knowledge? Beliefs only show our mental quirks. We cannot justify our beliefs; we just feel justified. This is how our minds work--we cannot give up our beliefs, and we live accordingly, without proof.

Hume believed that we need a science of humanity, which would examine the processes by which we think and form our views and believe what we do. He asks: what are the actual processes by which we develop knowledge? Scientific knowledge comes from people, so if we understand people we can find out about how we have obtained the knowledge that we have. Physical science studies the material world, but we also need to examine human experience using experimental methods--Hume wanted to develop a reliable science of the mind and of human nature that would be as coherent as Newton's physics. He tries to look at human understanding the way physicists look at matter and motion. Just as masses in space are attracted by the force of gravity, so our impressions are attracted to one another, by a kind of internal gravity. This view of how the mind works is called associationism--ideas are formed i) by combining sense perceptions that we experience together, and ii) because sense impressions come together in our minds if they are similar to each other--by association. Thus, we associate cats with purring; our ideas about cats are formed by all our associations we have to cats. Associations pull things together into wholes, as if association was a kind of gravity.

Hume has an implied theory of language and meaning; for a word to have a meaning it must relate to an idea, and the idea must be derived from experience to have real content. If you want to know what a word means, look for the experience from which it is derived; if there is no experience, the word has no empirical significance. If I use the word ìessence,î and you ask from what experience does that derive, the expression has no meaning unless I have an answer. When thinking of a whole body of ideas, ask: Does the idea rest on a fact--is it based on observation and experience? Also: Do the ideas have to do with the relationship between ideas, as in

mathematics? If the answer to both questions is no, then the ideas are only illusory. (Goodbye religious doctrine.)

There is a difference between facts and our reasoning and judgment about facts; this difference is called Hume's fork. Facts, and our judgment about facts and our reasoning about the relationships between facts, are like the prongs of a fork; we may associate them in our minds but they are actually different things. A fact and a judgment of a fact are not necessarily related. Judgments about facts are not true in the sense that facts are true. We like to believe that our behavior and judgments are based on reason, but we are fooling ourselves, because our behavior is based on desire, not reason. A fact is just a fact, such as the fact that water boils at 100 degrees. A fact may or may not tell us about another fact, and one fact is not necessarily logically connected to another fact. Facts can only be justified by evidence, and experience is the ultimate source of all evidence, but although experience is our only source of knowledge, it cannot tell us much about reality.

Reason, or logic, gives us no facts about the world, and neither can reason give us values about living--a value is not a fact; a value is what we think *ought* to be, not necessarily what actually is. Reason only tells us if a set of values is consistent with itself, not whether the values are good or not. There are logical connections that tell us about the relationship between facts, but these connections don't tell us about the facts themselves. Most belief is based on habit, convention and human nature. It is a mistake to believe that we can say what *ought* to be true based on what *is* in fact true. This is called the naturalistic fallacy, and is also known as Hume's law; ìno is from an ought.î This puts ethics on shaky ground; science can tell us what the world is like, but this does not tell us how we ought to act--we have to follow instinct and convention.

Hume applied his scientific view of human nature to morality also, using the analogy of light passing through a prism. Newton had said that light does not really have color, but it

produces a sensation of color in our minds when we see it. Similarly, our actions are neither good nor bad, but they produce judgments of good and evil inside us. Robbery is just a fact; we judge it to be bad because that is human nature--its not in the event itself. Beauty in things exists in the mind that contemplates them. Hume discounts personal freedom; it is an illusion. The idea of freedom to choose is just based on custom and religious teaching--what really motivates us is the avoidance of pain and the seeking of pleasure. Reason does not control emotions, reason is a slave to emotions. What controls emotions is just the tension of the differences between them, or the social need for ethics.

We cannot prove metaphysical ideas such as God, the self and causality, because these ideas cannot be proved by relating them to other ideas or through experiments. In the 19th century, people seized on Hume's attack on anything metaphysical as they developed mechanistic science, and psychology itself became Humean.

Empiricists like Hume have doubts about what we really can know, if anything. They turn away from rationalist ideas that we can discover real knowledge using reason alone. Reason will not give us knowledge about the real world that must be true--we cannot point to Plato's ideas. But at least we can investigate the world empirically, even if we don't know what we are investigating, and this gives us the best possible information about how to live. Later philosophers like Kant tried to develop a theory of knowledge that would allow some certainty, while accepting Hume's skepticism. But Hume's skepticism was not total; he does not believe that we can suspend judgment in ordinary life. He is skeptical about philosophical doctrines, and about facts deduced from reason alone, like trying to prove the existence of God by reason alone. You cannot prove that something is true by believing in it!

The attempt to develop an adequate theory of knowledge is difficult!

Thomas Reid

One of Hume's critics was the Scottish Thomas Reid (1710-1796), who is called a common sense philosopher, because he wants philosophy to conform to what we know to be true. Reid's assertion of common sense is a reaction against the abstruse philosophy of Hume, which was too much like believing nothing. Descartes and Locke believed that the mind is full of copies of outer objects, or ideas about them, but we cannot be sure that our ideas are true copies of the objects--we cannot see the original. For Berkeley, the "original" only exists if there is a mind there to experience it. But Reid says that perception simply records the world as it is--there is no representation as in Descartes; our perception makes direct contact with objects, not with a representation of the object or an idea about them--we know the world in an unmediated way. Something feels hard because it is hard; if we are cold we don't just think about the idea of putting on more clothes. This is direct realism or nativism instead of representational idealism--the world is real and the senses are affected by the world. The world exists independently of the act of perception, and our judgments regarding the causality of phenomena are true and reliable.

Reidís ideas went against all traditional theories of perception[74], which say that we perceive by building a mental representation from sensory inputs and we process the information to construct a mental model of the world[75]. This idea goes back to the 17th century and is still current. Reid argued that primary qualities are enough to justify belief in the reality of the physical world--there is no need for the skepticism of Hume and Berleley, which he thought were intellectual games. We perceive objects directly; we do not perceive sensations arising from objects. Secondary qualities are not the projections of the mind but mental judgments that

[74]Thomas Reidís book is: *An Inquiry Into the Human Mind on the Principles of Common Sense.* See also: *Between Hume and Mill: An Anthology of British Philosophy* ed. Robert Brown, Random House, NY, 1970.
[75]But see the modern work of .....Gibson on an ecological approach to perception.

are stimulated by objects. This is a common sense view that says that objects are present in reality and there must be a mind and a self to have them. Hume was willing to doubt everything except sensations, from which ideas emerge; but Reid asks why stop at sensations? If causation is only in the mind, why accept that there are even sensations or ideas or anything else? Reid says that we cannot deny sensations; we are equipped to experience the world in which we live, otherwise we would not survive. We are not made of logic; we cannot eat the idea of food. We don't have to conjecture the world--it is not subjective. The world is real, the senses are affected by it, and perception tells us about it.

Reid also rejects the idea that experience is based on bits of experience; we don't need to postulate the mindís gravity (associations) to hold complex ideas together; the raw material is the whole object, not bits of it put together. (cf Gestalt psychology, William James, then Gibson.) Reid thought that perception is always meaningful--perception is like a language with meaning. He thought that we are naturally endowed with mental abilities to perceive the world accurately--it is a human faculty to do so. Since God implanted these faculties, they must be valid. (See also Stewart, a student of Reid--*Elements of the Philosophy of the Human Mind*, 1792.) This Scottish school of philosophy became influential in the USA because it is consistent with Christianity; Reid seemed to save people and society from the chaos that skepticism threatened. Common sense psychology culminated in the American pragmatism of Dewey, James and Peirce. Reid originated what is called "faculty psychology"; a faculty is a specific activity of the soul such as remembering, reasoning, and volition. Faculty psychology tries to uncover the natural faculties of people and animal, which it believes are are rooted in instincts or innate dispositions. However, it just gives names to functions, and does not tell us much about them, so it is not very helpful.

David Hartley (1705-1757; *Observations on Man*, 1749) was a physician who tried to provide a physiological basis for Hume's empirical psychology; he thought that all human

activity, thinking and emotions, occur because of associations, which are produced by the connections of neurological pathways in the brain. The nerves are solid tubes that are set in motion by stimuli, and the vibration is transmitted to the body and the brain. All mental operations have this physiological basis. Obviously he was an important precursor of 19th century physiological psychology.

La Mettrie in 1748 was a surgeon who wrote a book called *L'Homme Machine*, which was a clear statement of materialism that shocked everyone. He said he had no need of the God-hypothesis. He believed that psychology was purely physiology. Just 100 years after Descartes separates physiology and mind, La Mettrie tries to get rid of psychology altogether. This began a mechanistic trend in French psychology

All this kind of radical empiricism actually abolishes the need for a mind at all, so there is no need for psychology.

Gottfried Wilhelm Leibniz (1646-1716)

Leibniz is another major figure of this period who is relevant to psychology. He was a brilliant man; he invented calculus, not knowing that Newton had also done so. He also invented a calculating machine that could multiply, divide and determine square roots. He is considered a pioneer in the development of mathematical logic. Leibniz was a man of the world, a courtier and diplomat, a polymath, always traveling. He was probably an intuitive type; he was endlessly curious and made many plans, but was disorganized and could not really get things finished. He often could not find what he had written, so he would simply write again on the same subject.

Leibniz was born to a 50 year old father, who had been very ambitious for the child but who died when Leibniz was 6. Leibniz had an intense desire to know, which he thought was a

way to God (obviously a follower of jÒana yoga). Leibniz believed that there are innate ideas such as God and innate mathematical truths that cannot be derived from experience--they are too abstract. Innate knowledge must be activated by experience or reflection.

Like Spinoza, Leibniz is a rationalist; we can know the world by using our minds, by thinking, and by reason--unlike the empiricists who think we only know it by experience (these two attitudes are to be combined in Kant). Leibniz rejected Locke's *tabula rasa* approach. Leibniz said that there first has to be a mind that is prepared to have an experience--he was a mentalist. For Leibniz, as for all rationalists, it makes no sense to say that the mind is built up from experience, since there must first be something there to have an experience. The mind is not a passive receptor of experiences like a piece of white paper, because it transforms sensations. Whereas Locke had famously said that there is nothing in the mind that was not first in the senses, Leibniz said that nothing is in the mind that was not first in the intellect except the mind itself. The mind has its own innate categories or principles, such as substance, being, cause, identity, reason and perception (he's just ahead of Kant with the idea that the mind has *a priori* dispositions). These categories are innate, meaning that they are not in physical objects and not in the senses. Experience activates what is in us, and gives us a context for ideas and thoughts--without the mind's categories, we would just experience a series of sensations. Experiences by themselves cannot produce ideas, because experience involves the interaction of sense organs and matter, but ideas are not physical; perception is purely psychological; it cannot be imitated mechanically; if you take apart a camera you find parts, but not the experience of a perception. Mind is not reducible to anything else, not taking its character from anything else--it's a quality, not a quantity.

Monadology

Leibnizís idea of the monad is difficult to understand. The world consist of an infinity of

monads, which is a unit of unextended force or energy. A monad is like a theoretical mathematical point. Each monad is a separate independent force that is unique, and it asserts its uniqueness against other monads. Everything material is just a phenomenon or appearance, a by-product of the real world, which is an array of these purely spiritual centers. Everything is made of monads, which have similar properties even though each monad is different, like snowflakes. A monad does not occupy space; they are metaphysical points that are unextended or not material. They cannot occupy space, because then they would be reducible to something simpler, and they are not divisible because they are the ultimate constituents of the world (are they like the strings of modern physics?). Monads have no window, so nothing can go in or out to change them. (This particular idea reflects a curious lack of connection and intimacy in his psychology.)

A monad is simple; it has no parts; it can have more or less ability to see what is going on around it--a monad is conscious, a mind, although not necessarily self-reflexive or self aware; the monads with the most ability to think and perceive are human souls. Each monad is a view point for seeing things, so that everything is made up of an infinite number of points of view, and the world has infinite variety, even though everything is connected. But we only understand certain things about the world; only God has the big picture, so things that seem disconnected or accidental are actually part of the divine plan. Each monad is like a video camera, so that if all these tapes were to be projected onto screens, they would correspond to each other but they would not affect each other. The monads do not interact with each other even though they are aware of each other--each monad is determined in its properties according to its own nature, and they are correlated by a pre-established harmony, thanks to God. Changes in all monads always correlate with each other, because the nature of a monad is to reflect the whole universe from its unique point of view--each monad is a mirror of the whole universe (is it a hologram?).

In a person, the soul is the dominant monad that arranges all the others. The soul monad

has an internal principle that allows memory and perception. Monads are not individually conscious, but when we add up their effects cumulatively, each small perception adds up to complex mental functioning, including consciousness. The experience of matter is the result of the way that the immaterial monads perceive the arrangements of each other in space. When an event occurs in one monad, the event is harmonious with what occurs in the others. When the monad of the telephone and the monad of my mind correlate, I hear a ringing sound because they are in perfect order, like two perfectly timed clocks. The light did not go on because I switched it on--each monad was so built by God that at the moment my monad flipped the switch, the light monad lit. Leibniz proposed parallelism in answer to the mind-body problem; there is preexisting harmony among the monads, like perfectly attuned clocks or tuning forks in resonance with each other; consciousness mirrors the body perfectly because of God's perfect harmony. There is no interaction of mind and matter, but a plan of agreement designed by God that coordinates soul and body; the soul's actions coincide with the body's movements. (c.f. Malebrancheís theory of occasionalism; mental events are not connected to physical events at all; when something happens in one realm, God makes something happen in the other--the event is not causal but is the occasion of God's action. The phone rings and God gives me the experience of a ringing sound.) Because mind and body resonate in parallel, there is no timekeeper who checks the clocks to make sure they are on time, as the occasionalists said. Mind-body interaction as per Descartes is meaningless. Lke the mind, the body is also a simple substance, a monad; body is a composite assembled from simple substances. Since the monad has no window, nothing can get in, and it cannot be changed, so we cannot speculate about mind/body interaction; each monas is unique, independent.

For Leibniz, matter is not real but is phenomenal, an appearance, so there is no matter for mind to interact with; everything that exists is mental in some degree because the ultimate constituents of the world are mental. God is a perfectly mental being, not the all inclusive physical/mental entity that he is in Spinoza. Leibniz says that matter is made up of a propensity

for action, but these propensities are not themselves material (just as the laws of physics are not). It may be that Leibniz is groping for the idea of energy underlying everything; in his time there was no vocabulary to speak of non-material centers of activity except mind, soul and spirit. He realized that dynamic activity is a part of nature, so we don't need to impart motion to matter in order to make it move; matter is intrinsically active.

If God created the monads and gives them a unique nature that determines what they do, there is no real causality--it is all caused by God--every person's nature is determined by God. But then how can there be free will? Leibniz says we are free to be what we have been made; I am only constrained by the system of correspondences that God has created and by my nature--we have that sort of free will. If we do not do what we do, we are not who we are. Our actions stem from our own will, but the will is dependent on its causes, which end up being God.

Leibniz is important in philosophy because of his distinction between two types of statements--analytic and synthetic statements. A statement may be true in the sense of a definition: All bachelors are unmarried--this is true by virtue of the terms used--it is an analytic statement that can be verified by analyzing the statement itself. But some statements need to be verified externally. If I say that there is a cat under my chair, I have to look to see if that is true--this is a synthetic statement that can be established by going beyond it.

Leibniz is important to psychology for two reasons; first as the precursor of psychophysics. He pointed out that we have a perceptual threshold, and there is a relation between stimulus intensity and perception. He also implies the existence of the unconscious when he says that there are changes in the soul of which we are not conscious. When we are asleep, the monad still perceives, but we are not aware of it because we don't remember the perception. We have unconscious perceptions in sleep, which can be stored up in the mind and eventually break into consciousness. (*New Essays,* book 2. See Robinson, *An Intellectual*

History of Psychology, p. 218). Leibniz distinguishes sensation from perception; he realized that apperception occurs--we refine and affect pure perception; we do not see blue and yellow when they are combined, we see green, which is an emergent property not seen in either alone.

Leibniz is in part a theologian, concerned to reconcile philosophy and religion. A major work is his *Theodicy*, which has been neglected--like the other rationalists, God was central for him. God is not the author of sin; he permits it, but he does not will it. Man is free and God is just; we have to grasp the order and harmony of God's plan. Evil occurs because God has many reasons for doing things, all of them just and good, in the light of which certain things had to be allowed. We have to be less perfect than God is, so some error is unavoidable--because we are imperfect we make bad judgments. We savor good all the more because of evil; evil is necessary to have good. We see things differently, but God made this world the way it is because it is the best of all possible worlds (in 1759, Voltaire will make fun of this idea in *Candide*, in which Dr. Pangloss keeps explaining disasters with this platitude). A better world couldn't have existed--meaning that many things can be explained with a few ideas, not that we are happy all the time. Other worlds would not be as logically organized or mathematically correct. God is limited by the type of things that can exist; that limitation allows sin and suffering. (Modern process theologians say that God is limited by the possibilities that exist, some of which are incompatible with each other.)

Leibniz and Spinoza both combine science and religion; Spinoza does this by adopting the scientific world view of his time but recommending a spiritual attitude to it. Leibniz says the world is really a spiritual place, much more so than science realizes; science is trying to understand the workings of intelligent Spirit. But, the 17th. century lays the foundation for the 18th century Enlightenment. Here, the Newtonian universe does not allow miracles or the soul. Science and reason start to replace religion as the main institution of society; people are soulless machines, and material happiness matters most.

History 3

Lecture notes of Dr. Lionel Corbett: private distribution only

The 18th Century Enlightenment; Kant, Rousseau; Schopenhauer; Mesmer, de PuysÈgur

The 18th century is known as the Age of Reason or the Enlightenment because of the development of rational, progressive, liberal and scientific ideas during this period. People thought that if only the right answers could be found to problems, humanity could take a great leap into a new scientific age, thanks to scientists such as Newton. This attitude gew everywhere in Europe, but especially in France among the leaders of this movement, who were called the "*philosophes*" (de Montesquieu, Diderot, de Condillac, Rousseau, and Voltaire). They wanted to change society and the way people think. They were outspoken critics of the establishment, especially the Church and aristocratic privilege. By the end of the 18th century they had succeeded in changing France from a monarchy to a republic, thanks to the revolution of 1789.

The *philosophes* tended to assume that whatever was traditional was wrong--traditional thinking was not based on reason but on habit. God became distant, and religion was dismissed as mere superstition--the *philosophes* wanted to replace religious ideas with Newtonian science--Newton was the new light in the darkness. Much of this thinking was very useful, but some of it, especially its strictly scientific epistemology, produced skepticism. Descartes, Locke and Hume had made it clear that human knowledge was very limited, and we could never be sure that what we know is correct. There was an attempt to place ethics and morality on a scientific foundation, but by stripping morality from religion and tradition, and by making it a matter of individual choice, morality became undermined, leading to a moral crisis. The Enlightenment thinkers apparently confirmed Hobbes' pessimism about human nature, which suggests that we are

dangerous, aggressive creatures who need strict government control.

The irony of all this was that we reached a period in which the philosophers increasingly doubted that we can know anything, at the same time as science was learning more and more about the world.

Kant (1724-1804)

Kant is so hard to read that people argue about what he meant to say. He did not start publishing until aged 57--late for a creative genius. He was afraid he would die before he could get his work out, so he wrote fast.

Kant was in the grip of an intellectual crisis. On the one hand, science said that we could know the world certainly, but at the same time philosophy (Hume) said that experience can never tell us about the world. As well, science said that nature was determined by necessary laws, but religion said that man is morally free. Hume had said that all reasoning is based on the idea of cause and effect, but this really only means that we observe sequences of events in time; causality is an artifact that has no reality itself. Kant realized that this attitude undermined the possibility of certain human knowledge, because the fact that events seem to be ordered a particular way does not guarantee that they always will be ordered this way. This threatened the achievements of Newton. Consequently, Kant said that Hume had awakened him from his ìdogmatic slumbers.î

Kant was not just concerned with useful truth, he was in interested in finding transcendent Truth, so he uses metaphysical[76] arguments about the mind rather than purely empirical ones, as Hume

[76]This means philosophical, as distinct from religious, metaphysics--the attempt to examine underlying assumptions about reality.

had done. Kant realized that the old speculative metaphysics about God and the soul were no longer any use, but he could not accept Hume's skepticism about all knowledge. Kant wanted to prove the *validity* of human knowledge and not reduce it to habit formation, as Hume did. Kantís problem was that, if it were true that only discrete events are perceived and not their causal connection, we would not have been able to develop predictable laws of science that give certain knowledge, yet Newton had done so. Kant could not accept Hume's purely psychological analysis of knowledge that said that we tend to form general conclusions based on association and habit; Kant wanted to prove the validity of our knowledge apart from habit formation. He wanted to reassert the claim of philosophical (not religious) metaphysics over psychology, and provide a philosophical basis for physical science.

Kant calls the world of experience that we perceive the phenomenal realm. The world of things-in-themselves (the *Ding an sich*) is the noumenal realm, which we do not know. Kant on studies the way phenomena arise in the mind; he believes that the mind structures experience in universal ways. He thought that the empiricists made the mistake when they assumed that objects appear to the mind and then the mind conforms itself to objects, as an impression is made on hot wax. For the empirical approach, what we know has to conform to real objects in the world. Kant reversed this empirical attitude to knowledge; Kant said that objects (noumena) have to conform to the way the mind works. The mind organizes its experience of the world by imposing its own innate categories on experience. There are inherent organizing principles in human perception that Kant calls categories of understanding; we use mental categories to organize the world. These categories are space, time, substance and causality--we experience the world through these categories, so that we *say* that things have substance, that things exist in time, and that things are caused, because that is how our mind structures reality. If I pour water into a container, the water assumes the shape of the container; the shape of the container is the way the mind shapes the water of experience. Kant called these *a priori* concepts--they come before experience, they make experience possible; we don't make them up; we have to use them

to understand things--today we would say they have evolved. It is our ability to know with these categories that allows us to understand experience. (Here, we can hear the echo of the archetype in Jung.)

Unlike Hume and the empiricists, for Kant the mind is not a passive agent produced by sensations. The mind is active, and it is governed by innate laws and structures that translate sensations into ideas. In other words, there are intrinsic mental operations that are not dependent on sensory imput. Hume thought we could not prove causation, but Kant says that in the phenomenal realm events *do* have causes because the mind imposes causality on experience. The idea of causation is inherent to the mind, and independent of experience.

Kant thought that there is both empirical knowledge, that is dependent on sense experience, and also transcendental knowledge that is independent of experience. He thought that we begin with a sensation, which triggers the mind's own operations; the mind then molds the experience according to the mind's inherent concepts and forms of perception. Consequently, the *objective* world is unknowable because the mind imposes its own ordering system (in Jung, very influenced by Kant, this idea becomes the reality of the psyche, or *esse in anima*--we live in a psychic world). All knowledge exists in the form of the ideas that result from the mind ordering sensory experience. Because Kant agrees that there is an external world that stimulates the mind, he bridges the gap between the extremes of rationalism and empiricism.

Said another way: If we wear red glasses, everything we see and understand is red; the the glasses are imposing redness. But, it is only phenomenally true that all is red--objects may have other colors that our glasses do not allow us to detect. That is,we are endowed with qualities of mind that impose themselves on experience to create our experience of the world. For the empiricist, the mind is passively registering objects; for Kant, the mind actively structures experience into knowable shapes. This at least rescues phenomena from skepticism, even though

we don't know how the noumena themselves are organized. If we try to apply reason to noumena, we only have illusory metaphysics; thus, it is futile to try to prove the existence or non-existence of God, since God is noumenal. The idea of existence is itself an empirical or phenomenal concept! Whenever we try to speak of the existence of things beyond the phenomenal realm, such as God, we are doing an unfounded form of metaphysics. The noumenal realm never becomes empirical, so pure reason is not useful in this realm.

Kant thought that Hume went too far in saying that, although we have to depend on our senses for knowledge, we cannot trust them too far. For Kant, Hume was too skeptical, while Leibnitz was too confident in the mind. Kant thought that even though we cannot trust our senses to tell us directly about reality itself, our senses do tell us a good deal about how reality appears to us, and this appearance points to a transcendent unity of the way the world seems and what the world actually is. We cannot know the noumenal realm directly, but we apprehend it based on the way we perceive the phenomenal world. *Within* this world, we can assert Truths, which rebuts Hume's skepticism about the possibility of knowing anything. If Hume is right, the world that science describes is only psychologically true, and if the laws of mathematics come from the mind, how can we be sure they correspond to the world? Kant replied that the world that science knows is a world that has *already* been categorized by the mind's own apparatus. The world that science describes therefore corresponds to the fundamental structures of the mind. We cannot know nature independent of the mind. The laws of science are built into our mental apparatus, so when we observe the world we do so in terms of our own mental organization. Thus, we locate all events in space and time, which are at the base of all sensory experience, so space and time are presupposed, not observed; they constitute the context within which we observe. We cannot know the world without these categories. Their ground is epistemological, in the nature of the mind, not ontological, in the nature of things. Similarly, we perceive events in terms of causation; we don't know if there are causal events beyond what can be experienced, but in the world of our experience events are caused, so we can do science. We experience the world in a

context that presupposes causality, which we bring to experience. So also for categories such as substance, quantitity and relation. All these transform the world into a unified frameworld. The categories are *a priori*; we bring them to experience, but they are also empirically applicable.

We know things in relationship to ourselves; the mind makes our reality the way it seems. But, for Kant, there is a Transcendental Ego, or Self, that imposes these Transcendental Categories of Understanding on experience. Here "transcendental" means logical and necessary preconditions for any experience.

Kant was one of a group of German idealists (with Fichte, Hegel, Schelling, Schopenhauer) who gave special emphasis to the power of the mind in their view of reality. They all believe that the mind and the nature of the mind structure our experience of reality, but people and our reality are part of a unified, transcendent reality that goes beyond individual experience--a romantic idea. The term ìtranscendental idealism" means that we can have transcendent understanding of a unified reality--we are a part of that reality and it transcends individual experience. This differs from Berkeley's idealism, in that for Berkeley the order and consistency of experience depends on God, but for Kant this order is provided by the mind. This attitude is a reaction to Hume's empiricism--he tried to show the limits of understanding, but the idealists tried to show that our understanding is *not* limited by our experience because human understanding is built into reality itself.

In other words, Kant said that the mind and the rest of reality are part of the same unified picture--there is transcendent unity. This emphasis on unity is close to Romanticism in art and literature. He had originally been a follower of Leibniz (by means of Christian Wolff, Leibnizís follower) but he revised Leibniz's approach to metaphysics. Kant thought that Leibniz had been too confident that we could derive metaphysics from rational principles. But, since reason alone cannot know the universe, the rationalists are wrong; and the empiricists are wrong because

sense impressions alone cannot lead to knowledge, since sensory data have to be interpreted in terms of general concepts. For Kant, Locke was wrong to deny innate fomal knowledge.

Kant wants to *combine* both empiricism and rationalism. Empiricism says that all knowledge comes from experience, and there are no innate ideas; empiricism makes "synthetic" propositions that are informative, they tell us something not implicit in the words used; the ball moved a certain way because it was struck with a certain force--this tells us facts that we could not know from the words themselves. Rationalism says that knowledge comes from logical, rational deduction about the world, and believes that only innate ideas are a safe basis for knowledge. Rationalism makes "analytic" propositions (the truth is in the words used, by definition; balls are spherical--basically this just shuffles words about and explains their connections with each other). But, rationalism has trouble linking its logical certainty with reality, while empiricism has trouble proving that laws that we experience are logically necessary. Kant thought that knowledge comes from a combination of experience and concepts; without the senses we cannot be aware of an object, but without understanding we could not have a concept of it; gaining knowledge is a unifed process of perception, imagination and understanding; pure thought and sense experience are in an interaction. We can have synthetic *a priori* statements--we can know how far the ball will go when it is struck.

Kant's Moral Theory

We must be free to make choices if morality is to have meaning. Hume had said that we cannot say what ought to be true based what is in fact true, so how can there be an objective basis for morality? Kant disagreed; he believed that there are are objective categories of morality, because values are an *a priori* condition of the mind. Morality is *practical* reasoning about how we should act, in contrast to *pure* reasoning about what exists. We can find moral imperatives

about what we should do that are true for everyone; our conscience is innate (Jung took this position, in contrast to Freud's superego). There is a categorical imperative, which is an *a priori*, universal moral law that forms the basis of practical reason, or moral understanding; this enables us to behave as moral beings. There is an *a priori* rational principle that makes moral judgments inevitable and necessary; we can tell if our actions are in keeping with this principle if an action would be right for everyone. This is Kant's attempt to found morality on reason. (But this cannot be done; it is not *illogical* to be bad, it is bad to be bad; one can be very bad and entirely rational and self consistent. Socrates made the same mistake.) For Kant, freedom and autonomy are the essence of morality; but if our will is determined by an innate moral law, we are not free at all--a paradox. Anyway, how do you ever know if a deed is moral? In the phenomenal world, we act on the basis of mechanical laws and passions and desires, so we can never tell if we act out of these or out of freedom.

We certainly cannot rationalize religion, but science is only true phenomenally, so faith is still possible; we can have both scientific determinism and religious faith. If science were to know everything, morality is impossible; but if science only knows appearances, it cannot rule out religious and moral truth. For Kant, belief in God is a matter of faith, not certain knowledge. Our religious beliefs are personal, not objective, not a matter of dogma. The fact that Rousseau had stressed feeling over reason affected Kant, and strengthening his moral sense. Because Kant limits our knowledge to phenomenal appearances, he deepens the Cartesian schism between the mind and the cosmos.

To return to psychology: Kant did not think that we could measure the introspective aspects of the mind quantitatively, so we could not develop a Newtonian account of introspection. He did not think we could have a rational psychology, because the true object of psychology is the thinking substance or soul, which Kant called the Transcendental Ego (world spirit), and we cannot experience this directly. It has no content, it is pure thought, and so it is noumenal.

(Transcendental here means that instead of talking about the world itself, we are talking about the underlying conditions that make the world possible.) It is impossible to know pure consciousness itself[77], since the mind imposes itself on our enquiry. The mind is affected by our observation of it.

We have an empirical ego, our mental contents, that we can study through introspection, but this cannot be made into a science. To have a science, not only do we have to have empirical observation and quantification, but also a rational or metaphysical component that gives us a philosophical foundation to justify our empirical claims to knowledge. A purely empirical psychology has no rational component--we cannot get at the transcendental ego or the *a priori* categories, since they do not have empirical contents and are not reduceable to the laws of physics or biology.

But Kant did believe that we could have an anthropology, a study of humanity, by which he means the study of human faculties and personality. This would be a kind of common sense psychology like that of Reid. Part of this is physiological--the body--and part is pragmatic, concerned with a person as a moral agent and citizen. See his *Anthropology from a Pragmatic Point of View*.

Kant is a precursor of Wundt's work on the psychology of consciousness as well as Jung's idea of the archetype; he says we have ideas without being aware of them, and we are subtly affected by these ideas. We attend to some perceptions and not others; the mind is like a map with some areas light and some darker; this is like Wundt's view of consciousness[78]. Ideas about the innate, logical structure of language and thought, the archetype, *a priori* principles of perception, stages

[77]Some people, especially materialists such as Helmholtz, believe that we can study consciouness if we study operations that manipulate consciousness independently of consciousness itself. Helmholtz reduced mind to physiology and physical events.

[78]But Wundt abandoned the Transcendental Ego completely in his scientific psychology. He believed that apperception gives unity to conscious experience--which Kant said was the role of the Transcendental Ego. Wundt did study introspection, but he did not think he was studying the soul, just the self-observation of experience.

of moral understanding, and the attempt to find culture-free methods of assessment--are all indebted to Kant. Piaget developed Kant when he decided that children construct the world according to categories. (The child's construction of reality, the child's concept of time, space, and number.) Today, Kant's innate categories would be considered to be the result of the evolution of the mind and not to be metaphysically necessary conditions of consciousness. (Eg, we have innate 3-D perception, presumably because it gave us an evolutionary advantage as hunters.). But the question of causality is now up in the air again because of quantum physics.

After Kant, it became clear that our observations are never free of our judgments based on our mental structures; we cannot have an empiricism totally free of preconceptions or assumptions. (Everything we believe is a matter of how we construe it, based on our mental make up. After Kant, things become more relative with Einstein; postmodernism develops, and there becomes less and less ground for subjective certainty, no timeless principles, and our experience is structured by culture and language.) The world we perceive is formed in the act of perceiving. We need categories to perceive anything. Natural law, like the laws of science, is the result of our mental organization interacting with external events that we do not know in themselves--we cannot have pure empiricism without assumptions, or pure rationalism without sensory data. What we can do is study the formal structure of the mind. But reason cannot decide on matters that transcend experience. (Note how profoundly Jung was influenced by Kant.)

A problem that arose with the noumenal-phenomenal distinction was that Kant thereby dualistically split the self and the world. Some people do not like a radical separation of self and world as it is. Some do not like his emphasis on introspection. Kant does not join us to objective reality, to things in themselves--we are in a solipsistic prison in which the knower is joined to what is known. We do not know if we have absolute knowledge or just subjective knowledge of reality--do we only know things as they appear, rather than as they are in themselves? We are at the center of our own universe.

Other problems with Kant; if the noumena (read archetypes themselves) are unknowable, how do we know that they exist? Where do they exist? (In another dimension?) According to Kant, the idea of "thingness" comes from our mental categories, so there is no thing prior to a knowing subject with a mind. But there must be a thing-in-itself, or we could not have a world of appearances, since appearances are appearances *of* something, caused by the thing-in-itself. But "caused" is another category that is only a part of the world of appearances, so the thing in itself cannot operate according to causality. Is the concept of a thing-in-itself really warranted[79] ?

Biography

Kant was the 4th of 9 children; as far as we can tell his parents were good to him, decent and peace loving; his father died when he was 21, his mother at age 13. She was pious and fervent; he spoke of her with special emotion and reverence. He thought that she shaped his character, while his father had less influence on him. She would often take him on walks, and spoke to him of God. He said that she "impressed on my heart a deep reverence for the creator of all things...she planted and nourished in me the first seed of goodness, she opened my heart to the impressions of nature, she aroused and enlarged my thoughts, and her teaching has had a lastingly wholesome influence on my life" (Scharfstein, *The Philosophers*, p. 211). Perhaps

[79]After Kant, the German romantics in the late 18th and early 19th century (Fichte, Schelling, Hegel) suggested that the categories of the mind were the ontological categories of the universe--human knowledge *is* reality. There is a universal Mind that reveals itself through humanity. The Transcendental Ego is the Spirit that constitutes all of reality. What Kant called categories of understanding becomes a Spirit that makes things what they are. This Mind determines both the content and form of the world; nature is an image of the Self, not a set of independent objects. This closes the gap between the way we experience the world and the way the world actually is. But such idealism could not be tested, and did not fit with what science thought was an objective, material, ontologically distinct universe. Therefore materialism took over, even though it too is a form of metaphysics; it fails to account for consciousness, does not explain our sense of ourselves, and does not explain how the laws of matter came about. But, naturalism (everything has a natural cause) is more congruent with science, and more profitable. As science got going, there developed an increasing reluctance to postulate a transcendent dimension to life. But, Kant was clearly onto something; the mind cannot be said to reflect things perfectly as they are. Especially after Freud, we know that there are too many non-rational factors. The attitude developed that human experience is structured by language, and we don't know the connection between language and deeper structures in the world; so philosophy turned to either linguistic analysis or to the raw data of experience--phenomenology.

this is partly why Kant is full of admiration for the "starry heavens above me and the moral law within me...I associate them with the consciousness of my own existence. " Kant was cold to his siblings throughout his life. He was apparently a solid friend, faithful, helpful to younger people, but had little ability for intimacy. He was quite hypochondiacal, very preoccupied with his body. He was very frail looking, with a large head and a thin, small body barely 5 feet tall, with a chest that was very flat, almost concave. Although he was never very sick, he never really felt well. So, in an attempt to keep healthy, Kant ordered his life strictly. He was quite certain that the condition of his health depended on the weather, and he would often check his weathervane, barometer and thermometer. He was so anxious about his health that we would check the monthly mortality statistics for town he live in (Kˆnigsberg), and from these he would work out his own life expectancy. He memorized and occasionally recited a list of men who had long lives--he died at the age of 79. As he aged, he became misanthropic, severely depressed and thought of suicide. He terrifying nightmares, and was compulsive and obstinate, with very high moral standards like all obsessionals, and a fear of feelings and of sensuality. We have to suspect that his parents had been harsher than he admitted. He led the conversation of the dinner guests in a fixed sequence; he disliked opposition; did not like others to talk too much, and tended to monopolize the conversation. Everything in the house had to be in its exact place. He ritualized going to sleep; he would hang his watch on a nail between the thermometer and the barometer. He loved his watch.

Kant regarded thinking as essential to his life; it was a kind of nourishment for him. But it was important to not mix other activities with thinking; he must not walk and think, or eat and think.

Why would he not unify the world? Was he internally divided? Why did he maintain the difference between the realms of appearances and reality? He is like Descartes in trying to protect the realm of religion (noumenal reality) from the realm of science (the reality we live in), two utterly disconnected worlds. Perhaps because he felt that if appearances were the things in

themselves, there would be no freedom, only natural law; this world would then be the only world, and life would be unbearable. Whereas, if there are *a priori* laws, there is order, and order calmed him. Or perhaps two-world theories reflect an intrapsychic split.

Jean Jacques Rousseau (1712-1778)

Rousseau was an influence on Kant, and like him is also very important in the development of modern thought. In 1749, the Dijon Academy of Arts and Sciences set an essay competion on the question of whether the restoration of arts and sciences had contributed to the refinement of morals. Rousseau's essay began his career; against the tide of the Enlightenment, he argued that the answer was no; people have been corrupted by Newtonian science.

Rousseau defended the value of emotions as well as reason; he said that "to exist is to feel, " and "the first impulses of the heart are always right." He felt that problems arose from the tendency to deny the importance of feelings, unlike those Enlightenment thinkers who thought that the emotions are dangerous forces that need to be controlled by reason. Rousseau therefore undermined the intellectual approach of the Enlightenment--he thought that people had been damaged by the new science and philosophy. Rousseau therefore belongs to the Counter-Enlightenment. He wanted emotions to be shown--for him, emotions are a kind of proof of the existence of God. He thought that human nature is basically good, but is corrupted by society. To fit in with society, we have to deny or disguise our feelings and natural desires, and this makes people deceitful and greedy. The only person who is truly free is the king, because he is the only one who doesn't need to disguise how he feels to be liked by his superiors; "Man is born free, but everywhere is in chains."

Rousseau idealized what he called "noble savages," such as American Indians and South Pacific Islanders--his "noble savages," who he had heard about, who are natural and uncorrupted by

civilization. They do not try to fool people into liking them. He based his thinking on what he thought was the state of nature before laws and government, before ideas of good and bad, virtue and vice. We invented these ideas in order to get along with each other. But these ideas work only for the rich; they tell poor people what they can and cannot do, so they won't cause trouble. Rousseau believed in education in order to promote equality and freedom and to counteract the bad effects of society. His political theory argued for social equality and the extension of democracy to all, so that it influenced the French revolution--he did not like government by aristocrats. He believed in the importance of the ìgeneral will,î meaning whatever is good for the common interest, for society as a whole as well as for individual freedom; this works best when people voluntarily agree to uphold it.

Rousseau thought that arts and science actually degraded people and that before civilization our morals were rude but natural; naturally the philosophers did not like this--Voltaire was especially hostile to him. But Rousseau was not saying that we should act like primitives; he meant that we should be in harmony with ourselves. He rejects mechanistic explanations of behavior because they cannot explain free will.

Rousseau changed people's thinking about childhood--he's a kind of precursor of Freud in this respect. There was a progressive interest in childhood in the second half of the 18th century, and Rousseau's influence is behind it. His educational treatise (*Emile*, 1762) expressed a revolutionary idea about childhood. In this book, a child and his tutor retire from civilization and return to nature for education. After his education is complete, Emile returns to society. Rousseau believed that children should not be treated as miniature adults but as individuals with an intrinsic nature and value of their own; in childhood we are closest to the state of nature, before we become corrupted by society. The teacher should allow the child to express his or her natural talents, and not impose his views on the student. Rousseau said that children should be free to express themselves in order to develop their special talents. Child development occurs

best in a nonrestrictive, supportive environment--expression is better than repression.

Like Spinoza, Rousseau thought humanity is enslaved, but unlike Spinoza he thought that reason is the cause of man's imprisonment rather than the way to freedom. Spinoza thought that nature can be apprehended by rational thought, but Rousseau said that nature is deceived by reason and can be understood only through the inner voice of conscience, intuition and emotions, which are good and trustworthy. In his *Confessions*, 1781, which are sometimes said to mark the beginning of modern autobiography and self-revelation, Rousseau says that his birth cost his mother her life (p. 19). She died 9 days after his birth. His father never recovered from the loss; "he seemed to see her in me, but I could never forget that I had robbed him of her." Obviously Rousseau was chronically guilty; he remembers his father's groans and despair about her death. They would spend whole nights reading her books. Not surprisingly, Rousseau had a life-long need for maternal figures; he became very anxious when separated from Madame Louise de Warens, his lover, who he called Maman. He was masochistic in relationship to women; he had a propensity to lying and stealing, and became increasingly suspicious of others as time went on. Clearly his opinions about childhood were influenced by his own difficulties. Things were not too bad for him until about aged 10, since he was initially raised by his father and aunts in Geneva. But his father left town when Rousseau was 13, and the boy was placed with foster parents. His foster mother (Mlle. Lambercier, the wife of a pastor), beat him, and he was placed as an apprentice to an engraver who treated him cruelly. After 3 years, he ran away from this home because he was so unhappy, and he became secretary to the wealthy and charitable Madame de Warens, who profoundly influenced him. No wonder he thought that children are corrupted by the world.

Two other important figures who provide a link between Kant and Freud are Schopenhauer and von Hartmann.

Arthur Schopenhauer (1788-1860)

Arthur Schopenhauer 's monumental book, *The World as Will and Representation*, was published in 1819. Will is the driving force that makes things happen in the world and for people. Will is the basis of all life, an irrational driving force that is removed from intellectual control, of which we are unaware (read unconscious.) Will is at work in everything; what we see as reality is an expression of the will, which is a kind of desire to exist that takes on physical shape. We don't see the will itself--it is the thing-in-itself, like Kant's noumena--we see its effects in our reality. But Schopenhauer did not agree with Kant that we could know nothing about why things are as they are; he said everything springs from the will.

Schopenhauer believed Kantís idea that phenomena exist only to the extent that the mind perceives them, but he disagreed with Kant that the "thing-in-itself" (Ding an sich), or the ultimate reality, lies hopelessly beyond experience--the will is the ultimate reality. But, will is not only voluntary action with foresight; all the activity that the self experiences is will, including unconscious physiological functioning. The will is the inner nature of each experiencing being. In time and space, the will takes on the appearance of the body; the will is the inner nature of the body as an appearance in time and space. In fact, the will is the inner reality of all material appearances. There is really only one universal will, which is the ultimate reality.

The will is not rational[80]; for Shopenhauer, the will is there but it does not know what it is doing; will is blind and evil, hence it is the source of all suffering. The will wants to have its own way, but it is not free; it is determined by the laws of causality; we cannot choose what we will; the will chooses for us, but it is never satisfied; it is full of desire that it cannot satisfy. The result is futility and suffering.

[80]The will was rational for Hegel, for whom the will was an aspect of reason.

This idea of will that is not free and never satisfied is reminiscent of the idea in eastern philosophy (in which Schopenhauer read extensively) of the connection between desire and suffering.

Life is tragic because the will urges us towards the satisfaction of goals, but none of them can be permanently satisfied, because the will is infinitely active. Therefore, the will inevitably causes us to suffer. Just as eastern thought has a concept of *moksha*, or release, so Schopenhauer believes we can transcend the will by laying aside personal desire and striving, by resignation. Philosophy helps us to do this.

We can contemplate the Platonic ideas, which are what is left of knowledge after it has been purged of the will; knowledge then becomes objective and free of individual will. Or we can use art to trancend will; using art, we can get past our own predicament and see reality more generally.

People can recognize their own will that causes them to be who they are; knowledge is just one aspect of will; we know things because our will makes us know. You don't control will; it controls you (shades of Freud's unconscious.) Most people are obsessed with their own ways of seeing reality, but they are unaware of the big picture. Only a few see past their own wills. But we can deny the will through chastity, poverty, and love.

As well as being a precursor to Freud's unconscious, the will could be a precursor to the idea of libido, in Jung's sense. Jung says that he is indebted to Schopenhauer in the 1925 seminars, especially to Schopenhauerís second book, *The Will in Nature.* Schopenhauer had said that we only experience the world as an object in relation to a person as a subject. We create the world as a representation, and we do not have absolute knowledge because of our physical limitations. We do not know the sun itself, we know only the eye that sees the sun, and we cannot bridge the

gap. Reality is created by the will; the will creates idea and image; it is the transcendent factor of the universe, from which proceed manifest reality. As well as Freud, Jung may have picked up the idea of an unconscious source of psychological life from Schopenhauer. The archetypes express themselves as an unknown life force and also as images by which they express themselves. Note that, in his1925 seminars, Jung misreads Schopenhauer as saying that the will has a *teleological* purpose expressed in nature.

Schopenhauer was very interested in showing sexuality in an unfavorable light; he felt it causes too many problems. The genitals are the real focus of the will, and they are at the opposite pole to the brain and to knowledg; he recommended abstinence to deal with the problem. He had a strong sex drive, which caused him much suffering. Schopenhauer believed that we inherit our intellect from mother, and our true nature and character from our father. The true kernel of the personality is the will; the intellect is secondary to the will.

Biography

Schopenhauer spent his early life on his wealthy parents' country estate. He was apparently idealized by his mother who was a well-known novelist; she was "firmly convinced that no more handsome, pious, and intelligent child lived on God's earth." This idealization clearly influences his high opinion of himself. But later he and his mother seemed to compete with each other intellecually, and became rivals--perhaps because she could not tolerate the idea that he might also be a writer. They argued, and finally broke with each other completely. Her letters to him became critical and guilt inducing. He later blamed his mother for his father's suicide. His father sounds depressive, excessively strict and angry, and it sounds as if his parents did not get along well. At the age of 5, his parents had to run away from their home in Danzig to Hamburg; he wrote that he then became homeless, and since then never acquired a home. His father

wanted him to go into the family business, but Arthur wanted to be a scholar and was unhappy working in commerce. His father suicided when Arthur was 17, which was a great shock, and he became increasingly gloomy for two years, until he was given his mother's blessing to give up his job and study philosophy, both western and eastern. When he was told that this was not practical, he said that "life is a difficult business. I have continued to try to reflect on it."

He seems to have been a lonely, melancholic and very anxious individual--his biographer gives a long list of fears and "an inexpressible feeling of dread without any external cause." Clearly his harsh father had a profound effect on his personality structure. He never really enjoyed people, and was misanthropic and contemptuous of people, perhaps because of his sense of intellectual superiority. He had a deep interest in both suicide and insanity; in a way he advocates suicide in his philosophy. He found life too onerous to bear, and he liked the idea of not having children; he avoided marriage out of pity for the child he might have had. He advocates the doctrine of Nirvana, especially for men such as himself whose higher intellectual powers (he thought he was a genius) make them susceptible to greater suffering than ordinary people; he wants to learn self-extinction of the will. He believed that he was so superior that all previous philosophers had been superficial in comparison with himself, and that mankind had learned so much from him that he would never be forgotten. He wrote: "Within the limits of human knowledge in general, my philosophy is the real solution of the riddle of the world. In this sense it can be called a revelation...there are even some paragraphs that one might consider inspired by the Holy Ghost." Most other philosophers were worthless. (This narcissistic difficulty seems to reflect the inflation produced by a failure of adequate tempering of his grandiosity combined with his motherís idealization, and the projection of the devalued aspects of himself onto others.)

Schopenhauer had a low opinion of women; he regarded them as childish and silly, a kind of intermediate stage between children and men, mentally myopic. They are the unaesthetic sex; only the male intellect clouded by the sex drive could find them attractive. They do not create

works of art, have no real feeling, no appreciation for music or poetry, and so on. He was a terrible misogynist. He thought that his feelings about women were the result of having a detestable mother. He had several affairs but no marriage, which he felt he had to sacrifice to his intellect.

Franz Anton Mesmer (1734-1815)

Mesmer is particularly important in the history of psychotherapy. He was a physician who trained at the University of Vienna. In 1774, he had been treating a young woman with hysterical symptoms with no results. He was looking for a new approach when he heard about a cure for stomach cramps using magnets, developed by the Jesuit Maximillian Hell, who was a professor of astronomy. Mesmer placed magnets on the patientís body; she said the magnets produced pain but relieved her symptoms. Mesmer thought he felt currents of force moving through her body when the magnets were in place; he thought they were currents of what he called "animal gravity." Mesmer decided that animal gravity is produced by tides in the atmosphere and also in the human body that emanate from the stars--celestial bodies influence the human body.

Mesmer derived rules for placing the magnets, the duration of the treatment, and the precautions to be observed during treatment. Word of his success spread, but the chief credit throughout the German speaking world initially went to Father Hell and his magnets. Mesmer then published his own account, and reported that he could magnetize other materials beside steel, including paper, bread, wool, silk, leather, stone, glass, water--whatever he touched. He thought these all could have the same effect on people. The magnets affect the tides in the body, and the body itself is a magnet; he could use his own magnetic body to heal people, and his body was better than iron magnets. Some people are more magnetic than others, and some cannot be magnetized. The body is only susceptible to magnetic action when it is ill. Mesmer applied his treatment to a

wide variety of conditions.

Mesmer thought that he could lay hands on the patient and perform cures by restoring the body's harmony using the magnetism of his own organism. Baths with magnetized water were also helpful. Gradually Mesmer developed a reputation for wonder cures. In one case of a 16 year old girl suffering from epilepsy, he would point his finger at her at a distance, and she would fall senseless to the ground, even if he was standing behind a wall. Or he could press on her image in a mirror and get the same effect, or sprinkle water on her. Often he just touched the ill part of the body to treat it. His theory was that a magnetic fluid, a physical stuff, produced the cures; this fluid was transmitted to the patient. He decided that the doctor's body was the true magnet for controlling animal magnetism. The treatment induced a proper balance and harmony of magnetic fluid in the patient's body. Water could store this fluid, mirrors could reflect it, iron rods could direct it. Music enhanced its effect. But some people were resistant to the effect and could not be helped with it.

One famous case was Maria Paradis, aged 18. She had been blind since aged 3, but learned to play several instruments, and was financially supported by the Empress Maria Theresa. She had a variety of hysterical symptoms, including vomiting, melancholia, and fits of rage. Mesmer invited her to live at his house, which had become a residential treatment center for magnetic treatment. By now Mesmer was not using magnets; he would touch, point with an iron rod, and use music and mirrors. He gave Maria a good deal of personal attention and care, and she improved. She gradually became able to see. Some doctors said she was better, others denied any improvement. Her father finally took her away from Mesmer, because he was afraid that her pension from the Empress might be stopped if she improved. As soon as she returned home, she relapsed.

The Vienna Medical Faculty opposed Mesmer and made it impossible for him to work in

Vienna, so he went to Paris in 1778 and set up practice. In Paris, he was again accepted by the public but not the profession. Mesmer carried out various demonstrations that produced dramatic effects, but most doctors wrote them off as the result of the patient's imagination, not animal magnetism. He began using the magnetic *baquet*, an oak tub, 4-5 feet in diameter and a foot deep, that would store and transmit magnetic fluid. At the bottom of the tub were bottles arranged in concentric circles; some were empty and pointed to the center, others were full of magnetized water and pointing outwards. The tub was filled with water mixed with iron fillings and powdered glass. There were iron rods emerging through holes in the lid, bent at right angles so the ends of the rods could touch the sick area of the body. Several people could use the *baquet* at one time, sitting round it on chairs, and they would hold hands to create a circuit of magnetic fluid. The room was dark, music played, everyone was silent. Mesmer wore an ornate robe, moved around them, gazing at them or touching them with his hand or a wand. It was important to have a healing crisis, or physical reaction; sometimes the crisis was infectious. A room was set aside for those who had convulsions or other extreme crises.

Rich people had individual treatment, using magnetic passes of Mesmer's hands over the body. He sat facing the patient, knee to knee and foot to foot, to establish harmony. He placed one hand on the abdomen and made movements over it with the other, leading to feelings of heat or cold or pleasure. He thought that his hands were magnetic poles, one north, one south. He caused a current of magnetic fluid to pass from one hand through the patient to the other hand. He also passed his hands over the whole body from head to toe, and made magnetic passes above the body. Eventually there was not enough room at the tub, so he magnetized a tree with his magnetic passes, tied ropes to the branches, and told people to hold onto the ropes to receive their magnetization. This tree became popular among the poor.

By the 1770's, there was an antimedical movement in Europe, that tried to promote natural healing using the power of nature rather than the dangerous interventions of the physicians --they

wanted to make the relationship between doctor and patient more personal and make the patient less passive, more an active partner in the healing process (*plus Áa change*!). Mesmer fit into this attitude; he did not give medicines and he did not use electrical machines. He said that animal magnetism was a natural force that balances the natural magnetic fluids in the body. The relationship was crucial; he used touch and eye contact. He thought that medicines worked when they acted as conductors of animal magnetism. Not surprisingly, the orthodox medical establishment reacted to all this by scoffing.

But one establishment doctor, Charles D'Eslon, was impressed with Mesmer's theory and its applications to refractory patients. In particular, Mesmer cured a young boy who seemed at the point of death with a fever. D'Eslon said that even if Mesmer is only using the medicine of the imagination, why are we not using it? He thought that Mesmer was honest, and helped him approach the Faculty of Medicine in Paris. Mesmer was invited to present to them in 1779. He explained to them that the celestial bodies affect animal bodies by means of a fluid that has magnetic properties. Finally, the Faculty delegated 3 physicians to observe his work. They saw him help people, but could not agree that animal magnetism was responsible. Eventually the Faculty turned on D'Eslon for supporting Mesmer, and condemned animal magnetism. Mesmer threatened to leave Paris, and a great controversy followed in the public press. Finally, Marie Antoinette intervened to keep him in Paris, offered him rent for a building as long as he would accept government appointed students; but Mesmer rather arrogantly refused her terms, since he wanted to choose his own students and wanted immediate official recognition.

Eventually there was so much controversy that the King of France appointed a commission to determine the official status of animal magnetism. Benjamin Franklin was the chairman. They eventually decided that the benefits were due to the imagination, to touching, and to imitation, and there was no proof of the existence of animal-magnetic fluid. They discovered that the method did not work in skeptical people. There was also a problem with his "action at a

distance," since in the scientific world of that time there was a growing distaste for any explanations that sounded metaphysical (this distaste is partly why, a century later, Freud is anxious to produce a neurological theory of the mind.) A flurry of papers in defense of Mesmer followed this report (1784). Some people pointed out that animals could be helped, which ruled out touch and imagination. By this time, animal magnetism had spread all over France. Societies of Harmony were founded all over France, which taught the method.

Mesmer was always very possessive about his method, always saying that only he had the proper way of doing it; he wanted control of all teaching and propagation, and resented anyone else teaching his doctrine. He said he had a special teaching that he had not fully revealed. But so many people started to practice that he gradually was no longer the central figure.

Mesmer enhanced his treatment with drama, created a mood of mystery and expectation, arranged the environment to increase suggestibility, and used gadgets to focus attention on himself as a master healer. But he had no interest in the psychology of the patient, and did not use his method to study human psychology.

In 1784, Mesmer's pupil, the Marquis de PuysÈgur (an artillery officer), discovered that some people fell into what he called "magnetic sleep" when he used Mesmer's system. This was an altered state of consciousness, an artificially induced somnambulism--what we would now call a hypnotic trance. He said that this "magnetic sleep" sets up a special type of relationship called "magnetic rapport" between the participants that is important for the healing process. He noticed that the subject became suggestible, was amnesic later, and had a radical change of personality. In the next hundred years, paranormal phenomena such as clairvoyance and thought transmittal were also found to occur in this state of mind.

de PuysÈgur thought that the induction of magnetic sleep was a way of stimulating and

controlling natural somnambulism; they are the same in their nature, but one is spontaneous, the other induced. When this state is induced, a magnetic rapport occurs, which is a state of special connection between magnetized and magnetizer--the magnetized person has a deep connection to the magnetizer, whereas natural somnambulists are hard to communicate with. He also noticed that the waking person does not remember what happened in the the magnetic state, but the somnambulist remembers what happened in both states. As well, the somnambulist spoke of himself in the waking state with detachment, as though speaking of another person, so de PuysÈgur spoke of the two states as "two different existences" with different personalities, or two selves--(this raises a huge question about the unity of the self or its intrinsic divisibility.) de PuysÈgur believed that the magnetizer could read the thoughts of the patient and see by claivoyance into the body of the ill person. He emphasized that good will and the intention to benefit the patient are crucial.

In 1842, James Braid called this phenomenon hypnotism and explained it as a psychological phenomenon not due to a mysterious fluid. A great interest had developed, which we will pick up later when we discuss Janet and Meyers. Most historians of psychology do not pay much attention to Mesmer's discovery--the exception is Ellenbergerís *Discovery of the Unconscious*. Otherwise Mesmer tends to be written off as a charlatan whose patients were just naive. But, this discovery revealed an unconscious realm of mental life, so that modern psychologies of the unconscious can trace their roots to the practitioners of "animal magnetism." Magnetic healing led to the idea of alternate consciousness, which replaced the idea that emotional problems were the result of intrusion by a demon or witch, and it provided an alternative to purely organic explanations of emotional distress. If we can have alternate consciousness, we can have intrapsychic or unconscious causes of emotional problems to account for strange thoughts and feelings.

History of Psychology, part 4

Lecture Notes of Dr. Lionel Corbett: Private Circulation only

The 19 th century: Bentham, James Mill, J. S. Mill, Compte, Darwin, Gall, Psychophysics, Wundt, Phenomenology, Gestalt Psychology, James and Pragmatism, Nietzsche.

In the 19th century the pace of change increased dramatically. Industrialization, electricity, chemistry, railroads, and above all the theory of evolution, appeared. Religion was seriously challenged. Some people turned to Romanticism, which reacted against the naturalism of the *philosophes* and asserted the primacy of feeling and intuition against reason. Romantics protested against the Enlightenment and the CartesianNewtonian world view; Blake said (17571827) "May God us keep/From single vision and Newton's sleep." They believed that there is more to life than mechanics and the material world. The idea of the unconscious is Romantic; it is the home of feelings and chaos. Romantics tended to value artists and others who were independent spirits. Samuel Taylor Coleridge (17721834) said that the mind is like a lamp that reaches out to the world; a very different attitude than the mind as a passive recipient of impressions. (He was one of many romantics who used psychoactive drugs to reach alternate realities. This tradition continues.) Some psychologist remained in the romantic tradition, like Wundt, who believed that the mental principles of development are independent of the physical ones. William James was committed to the idea of free will, and Freud belongs here when he stresses the unconscious passions affecting reason. But most academic psychologists developed a mechanistic concept of mind and behaviorthis represents the continuation of the Enlightenment, which is the dominant thinking in psychology today. Enlightenment thinking continues to be popular, to the extent that it sometimes produces more dark than light.

Utilitarianism

Another influential movement relevant to modern psychologyespecially behaviorismis Utilitarianism, most famously expounded by Jeremy Bentham (17481832) and John Stuart Mill (18081873). Utilitarianism began as a moral theory; it is an attempt to provide objective criteria for determining when a given action is right or wrong, using the principle of utility, which states that an action is right to the extent that it tends to produce the greatest happiness for the greatest number of people. The principle of utility is fundamental in economics, but it is also one of the bases of behaviorism. This is still a powerful and influential theory in all human sciences that proposes hedonism as a simple theory of human motivationan idea that goes back to Epicurus and other Greeks. Happiness is equated with pleasure. According to this idea, people simply

want to avoid pain and pursue pleasuredifferent people experience different things as pleasurable or painful. Some modern utilitarians are not simply hedonists, since there are other ways to define happiness, such as obtaining what we desire even if this is not pleasurable. But always the main idea is to stress the *effects* of an action; if it produces more benefits than harm, it is right, and visa versa. The important point is the consequences of an action, not the motive. Intentions are less important than outcome in our evaluation of behavior; the intrinsic nature of the action is not as important as the motive behind it. This theory separates the rightness or wrongness of an action from the goodness or badness of the person doing itwhat really matters is the outcome. Politically this is all important, since it supports democracy and civil rights, and sets as a goal the question of how to maximize the happiness of the majority.

Jeremy Bentham (17481832) was an Enlightenment *philosophe* who turned this idea into a practical theory that could be quantified (*Introduction to the Principles of Morals and Legislation,* 1789). He thought that he could quantify pleasure and pain, thereby bringing Newtonian precision to the human sciences in order to maximize pleasure. We can determine how much people will pay for things they enjoy, or what they will pay to avoid pain. For him, only utility was important; he rejected other possible motives such as a moral sensehe dismissed theological and metaphysical assumptions behind social institutions, such as divine law or natural law or human rights. Only the usefulness of an act for the person determines its moralitydoes the act add to the benefit and happiness of people[i]? For the psychologist, this idea is important as a theory of motivationwe are still struggling with why people do things. (Bentham was intensely shy, sensitive, and insecure; he had to be pushed to publish by his friends, who finally published his work for him. He was the head of a group of philosophical radicals, who made major changes happen in law and politics at the time.)

James Mill (17731836) and John Stuart Mill (18061873)

For James Mill, one of the followers of Bentham, the mind is a passive, blank slate that receives simple sensations that add up to form complex ideas by associations. If this kind of associationism is combined with utilitarianism, we end up with a mechanical mind with no voluntary control. The mind just reacts to sensation; there is no real will, nor do we do direct our attention, since attention is mechanically directed by the principle of utility. This means that education can mold a person's mind. Based on this idea, James Mill rigorously educated his son, John Stuart Mill, who became an important utilitarian philosopher and is important to psychology because he tried to advance empirical research and experimental approaches to the mind. His *System of Logic* went through 8 editions and was a handbook on inductive and

deductive methods and the way we can make valid inferences. Much current thinking is indebted to James Mill.

John Stuart Mill was a child prodigy, the son of James Mill. Since his father believed the Benthamite doctrine that the child's character and intellect can be completely determined by education, J.S. Mill was not allowed to go to school, but was educated at home by his unfeeling father and tutors. He was rather timid, lived under his father's shadow, and finally had a major depression at the age of 20, perhaps due to the fact that his father was irritable, obsessional, and mostly concerned with detecting and forbidding whatever was wrong with the boy rather than loving him, so the relationship was one of fear. (He described his mother as warm but a drudge.) He was not allowed to have contact with children outside the family. By the age of 8, J.S. Mill spoke several languages and his father had taught him Greek and Latin (see his *Autobiography*). After his father's death, he came up with his own independent opinions, but remained in awe of his austere father.

As a result of his depression, J.S. Mill realized that Bentham was sterile, narrow and calculating, because Bentham himself was too undeveloped in his feeling life. J.S. Mill realized that human experience is more complex than the simple association of pleasure and pain and worldly interests. He wanted to justify and understand his own suffering, which was not only due to his depression but also due to a relationship with a woman he loved who was married to someone else, causing great pain for a long time and much social disapproval. He preferred a much more romantic view of people than Bentham, and denied that people are machines, preferring the idea of human freedom. His book *On Liberty* (1859) became a founding work on modern political libertarian thought. Here he said that people's autonomous development and growth has to be nurturedthe more freedom people have the happier they will be. We should do whatever we want to be happy, as long as that does not interfere with others' pursuit of happiness. But he remained a utilitarian and an empiricist. He developed his father's ideas of associationism by suggesting that elementary ideas could merge into a new idea with new properties, analogous to new chemicals being formed by the combination of two elementseg, H and O make wetness. Similarly, a complex mental idea may be composed of sensory elements but have unique characteristics of its owna form of mental chemistry. But, it is not the mind that makes the new qualitative change; this is forced on the mind by the way the sensations occur. (Later, Wundt picks up on the idea that the mind can synthesize mental elements, and the Gestalt psychologists move on to a holistic view of mind.) Mill is also famous for his writing about logic and the rights of women; his book *The Subjugation of Women* argues for women's' equality; he says that it is morally wrong to deny women social equalityit's bad for everyone. He was also in favor of

state-supported eduation for everyone, freedom of speech, the non-interference of government or society in individual behavior that did not harm others, and other proposals that were radical in their day.

Mill's critics objected to the idea that happiness is the best we can hope for; some said that justice is more important. But Mill said that the need for justice itself depends on the need to be happy, and happiness makes the idea of justice possible. Another criticism is that utilitarianism doesn't care how you make yourself happy, but Mill thought that people would naturally prefer higher pleasures once they experience thema kind of snobbery. The utilitarians make happiness and pleasure synonymous; but they are not necessarily the same thing. There are other problems with Utilitarianism. One ridiculous criticism was that of Nietzsche, who objected to the idea of making the greatest number of people happy because he thought that some people are inherently more important than others, so their happiness counts for more than the happiness of ordinary people. But the more serious problem is the assessment of the long term effects of our actions; if you believe that dropping the A bomb on Hiroshima and Nagasaki was good because it ended the war, you still have to assess the long terms effects of that. But if we have to wait until we know all the effects of an action, we will have to wait too longthe practical value of the principle of utilitarianism is very little, since we need to know from our moral principles how to decide *in advance* what is right. Utilitarians counter by arguing for the probability of the outcome being good. But then we are on slippery subjective ground. Also, the motive and intention behind actions *are* obviously important when making moral judgments, as Kant pointed out.

Another important development in the 19th century theory of motivation was the merger of utilitarianism with a theory called associationism. This combination was developed by James Mill. Associationism had been developed by Locke and Hume as a way of understanding human cognition. Hume said that we associate events when they resemble each other, when they are continguous in time and place, and if they seem to be cause and effect. was further developed by David Hartley (17051757; *Observations on Man*, 1749)he was a physician who tried to give a physiological basis to Hume's type of empirical psychology. Simple sensory information is connected to other information, and these associations join together to form complex ideas, which can then be analyzed into their simpler components[ii] Hartley added the idea that associations are made by connections between the fibers in the brain; ideas cause the brain fibers to vibrate; the nerves are tubes that are set in motion by external stimuli, and the vibrations spread around the body and into the brain. Hartley said that sensations cause either pleasure or pain, thus affecting action, so associationism became linked with utilitarianism. If we combine utilitarianism with associationism we know the *how* of behavior, which is making associations,

and we know the *why*, which is utilitarianism. Associationism is important to behaviorismthe linking of ideas occurs in the form of stimulus and response. Reinforcement theory is an extension of utilitarianismpleasure and pain are motivators.

The philosophy of positivism began to develop at this time, and this also became important to later psychology. Remember that the empiricists had insisted that all ideas must be subject to sensory experience in order to be validated. In the 19th century, a variety of empiricism arose called positivism, and another called pragmatism, which we will look at later. Compte[iii] developed a particular scientific world view that psychology adopted, and one that is still popular. This approach venerates Newton above all else. Positivists believe that science cannot admit theories that go beyond what can be tested directly, in experience. Knowledge can only be based on the "positive," observable data of experience[iv]. Compte thought that human history went through three stages that will culminate in a perfect type of government. He defined the stages according to the way in which people explain events in the world. The first stage was theologicalthings happen because of unseen entities like angels and gods; the idea of the soul belongs here. In this stage, the government is run by priests. Then there is a metaphysical stage which still uses the idea of unseen forces but does not anthropomorphize them as godseg, the idea that the soul is a kind of essence, or the idea of an archetype. Here the government is run by aristocrats or a philosophical élite. Finally the scientific stage drops all explanations in terms of unseen forces of any type. We use mathematical principles and descriptive laws; scientists run things, and a new science of sociology will appear that will predict and control society. Superstition and religion will disappear and be replaced by a religion of humanity that will substitute humanity for God. Compte will be the Pope; there will be new holidays, such as Newton day and Galileo day, instead of Christmas and Easter. This of course alienated everyone.

The positivists see metaphysics as useless. Kant had said that metaphysical ideas about God etc. have no cognitive value but are of moral value for the basis of conduct; positivists believe that metaphysics are totally useless, because there is no possibility of obtaining evidence that could support or refute metaphysical ideas. Metaphysics is therefore a worthless way of doing what art, music or poetry do much more successfully; these are all expressions of feelings and visions, legitimate as long as they do not claim to genuinely represent reality.

The trouble with positivism is its narrow view of experience and verificationnot all experiences can be tested, even those that are useful and important. It is so antimetaphysical that it becomes metaphysical itself; to label an idea metaphysical and so dismiss it is not a serious approach to

knowledge. An idea can be very useful and not verifiablewe cannot legislate ideas. We will come back to this problem later. But positivism had a big effect on psychology, especially in the USA, where positivism reemerged as behaviorism. Skinner's psychology is a positivistic account of behaviorfor him, psychology can only allow observable behavior, not mental processes that cannot be seen.

Another major 19th century advance was the theory of evolution. The stage for this may have been set by Aristotle's great chain of being[v] and its medieval evolution into the idea that the more spiritually evolved a being is, the nearer it is to God. In the old Aristotelian way of thinking, each species was fixed, and in Newtonian thinking, matter is too dead and inert to change, so evolution could not happen. But the theory of vitalism had not diedthis is the romantic idea that matter is intelligent and purposeful, that Nature is self perfecting and self-directing. Vitalism too may have helped to foster the idea that living things can change. The first major theory of evolution belongs to JeanBaptiste Lamarck (17441829). He represents the vitalist idea that living matter is fundamentally different than dead matter. For him, each organism tries to adapt itself to its surroundings and changes in order to do so, acquiring the necessary muscles and habits. Lamarck believed that the characteristics an organism acquires are passed on to its offspring. Over generations therefore, the organism's striving for perfection is passed on.

By the time Charles Darwin (18091882) arrived therefore, there was already belief in evolution rather than the fixity of species as taught in Genesis. Darwin's grandfather, Erasmus Darwin, had suggested an evolutionary theory similar to that of Lamarck. He believed that species modified themselves by purposively adapting to their environment, but he offered no evidence and no suggested mechanism for this to occur. Charles Darwin went round the world from 183136 in the British naval ship HMS *Beagle*, as an unpaid naturalist on an admiralty expedition to explore Patagonia, Chile, Peru and the Pacific Islands. In the rain forest, he was profoundly affected by the diversity of species. For example, he noted that the beak of each species of finch is slightly different, each suited to different types of foraging, some long and thin that can penetrate tree bark looking for insects, others short and sturdy for opening nuts and seeds. Darwin decided that each had descended from a common ancestor and each had changed to adapt to its environmentto better fit. But he could not initially figure out why or how species improved their fit with their environmenthe did not buy Lamarck's idea of an innate drive to perfection, and as yet there was no knowledge of genetics. Darwin was helped by reading the economic theories of Thomas Malthus (*Essay on Population*), who had written about the problem of why, in spite of the fact that science and technology were improving, society was still full of poverty, crime and war. In

the early years of the Industrial Revolution, in spite of new wealth, there was severe social misery and a high birth and death rate. Some Enlightenment thinkers had hoped these problems would go away as science advanced. However, Malthus pointed out that, although productivity had increased, population growth had outstripped the supply of goods, so too many people struggle for too few resources. Reading this, Darwin realized that the struggle for survival also applied to species. Organisms struggle to survive, and, by chance, some are better equipped in particular environments than others. Those who are weak die without offspring; the strong survive and procreate. This process preserves helpful variations and eliminates unhelpful traitsa process of natural selection. Although the organism adapts to its environment, environments change, which leads to new traits that have to be continued, so species keep diverging from their original stock.

Darwin arrived at his ideas in 1842, but did not publish them immediately, for reasons that are not clear. But in 1858, Alfred Russel Wallace wrote to him with the same idea in a paper, also stimulated by reading Malthus. Both his own and Wallace's paper were read at the same time in London, establishing them as codiscoverers. Darwin published his *The Origin of Species* in 1859. The book went through six editions until 1872.

A controversy about evolution erupted, and continues. Most opposition was from the clergy, who realized that the theory of evolution was inconsistent with a literal interpretation of the book of Genesis. Traditional Christians were threatened by the suggestion that the natural world worked according to laws that were comparable to those of the physical world. Darwin's theory did not need divine intervention, and humanity was not especially superior to the rest of the animal world--just part of the same continuum. Therefore, Darwin's ideas were not only scientifically radical, but also possibly legally dangerous to him, since at the time there were laws against blasphemy. England was fervently evangelical, and the spirit of God was thought to create new species of plants and animals when earlier forms became extinct. T. H. Huxley (18251895) in *Man's Place in Nature* (1863) used the theory of evolution to attack the Bible and religion; he pointed out that people are well developed apes. We are a part of naturewe do not transcend it. On the other side, Bishop Wilberforce and William Jennings Bryan (the politician) criticized the theory of evolution. There had already been doubt about religion, but Darwin was a further huge challenge; Huxley pointed out that no creator was necessary, and science could provide what we need to knowscientific humanism now began in earnest because it had more fuel, and religious doubt increased.

Darwin had a profound effect on psychology, especially comparative psychology that compares the abilities of different animals. His 1871 *The Descent of Man* argued that the differences between people and animals are transitional, one of degree, not quality; we share many characteristics with animals. In his important *The Expression of Emotions in Man and Animals* (1872) he showed that the facial expressions of animals and people are similar when they have similar emotions[vi], further narrowing the distance between humans and animals and laying the groundwork for modern affect theory.

An influential psychological theory partly derived from the Lamarkian theory of evolution was that of Herbert Spencer (18201903)his *Principles of Psychology* (1855) integrated associationism with Lamarkian evolutionary theory. Spencer thought that we can understand the mind by observing its evolution. The brain accumulates experiences and makes associations; those associations that are made frequently are passed on. The difference between species is the result of differences in their brains' capacity to make associationslower intelligences make fewer associations, and civilized people have more complex brains than uncivilized people. Spencer believed that human society evolves, and natural selection should be allowed to take its coursewe should do nothing to help people who are weaker, since the cosmic process of evolution will weed them out and the species will become stronger. He coined the phrase "survival of the fittest." Thus began the pernicious doctrine of Social Darwinism, which became quite popular in the USit justified cut throat competition and meant that any reform of society was tampering with nature. Class stratification was justified on the basis of "natural" inequalities among individuals. Some people were simply superior, and if we were to intervene to help those less well off, we would interfere with natural processes. Competition is simply a part of biological selection. The poor are the "unfit" and should not be helped; in the struggle for existence, wealth was a sign of success. Social Darwinism was used to rationalize imperialist, colonialist, and racist policies, and to support belief in the cultural and biological superiority of some races.

Francis Galton

A related notion is that of eugenics[vii]. The first modern version of eugenics was the work of Francis Galton, a cousin of Charles Darwin. He was interested in the evolution of mental traits, and the inheritance of intelligence and other mental abilities, with the goal of racial improvement using eugenics. To prove that human abilities are inherited, he traced the lineage of families, showing that some produced more athletes, others more lawyers. He decided that the most important traits, such as morals and character, are inherited, not innate. In 1869 he proposed that we could eugenically improve humanity, if we understood the details, by "judicious marriages."

We could then produce a gifted race by selective breeding, which would work better than trying to do it by education. All this seems to have been influenced by a worry that the British nation especially the upper classeswas degenerating. Galton used statistical methods to study mental tests of individual differences in areas like mental imagery, olfactory discrimination, space perception, intellectual performance. This started the movement to testing and statistical measurements of populations. His eugenic ideas never took hold in Britainthey became more popular in the USA, where they became linked with racism.

Gradually, as the hold of religion over people began to fade, 19th century psychology started to carry out some of the functions that had been carried out by ministers, explaining the mind and moving into the province of what had been religious ideas. Perhaps this is partly why psychical research and spiritualism emerged in full force in the midnineteenth century; they seemed to offer proof of the continuation of the soul, which science was busy debunking. Frederick Meyers (18431901), the leading psychical researcher of the time, had lost his religious faith, and Henry Sidgwick suggested that it might help if he were to look for evidence of the immortality of the soul. Myers founded the Society for Psychical Research, which published Meyers' results in 1882; later this appeared as *Human Personality and its Survival of Bodily Death* (1903). William James became very interested in this work, because it was a psychological approach to spiritualism. Myers took up Freud's ideas about hysteria expressing unconscious desires; Myers called the unconscious the subliminal self, which was a romantic and progressive theory of the unconsciousit enables us to communicate with the spirit world that transcends the material world. The point is that now there can be spiritual as well as bodily evolution; each soul perfects itself and keeps evolving after death. Huxley denounced all this spiritualism, but the movement was very popular at the end of the 19th century. The debunkers exposed the fake mediums, but there was a constant new supply. This controversy continues over people like Uri Geller.

Franz Gall (17581828)

At the beginning of the 19th. century, the dominant theory of brain functioning was that of Franz Gall, who believed that the brain was the seat of mental activity the way the stomach is the seat of digestion. Therefore, there is no point in studying the mind philosophically, which just leads to abstractions; we should study the brain empirically. The idea that the brain is the seat of the soul goes back to Plato, and medieval faculty psychologists believed that each faculty (such as sensation, memory, attention, imagination) was located in a particular area of the brain. But this was all based on an analysis of mindit was philosophical psychology, whereas Gall begins

neuropsychologyhe has a physiological approach. Gall tried to correlate specific behaviors with particular regions of the brain, using detailed anatomical studies.

Gall reacted against empiricism and associationism or any philosophical approach to psychologythese are too speculative. For him, the categories of analysis used by philosophers were only abstractions. In his *On the Functions of the Brain* he notes that we all have faculties but we are all different. He realized that the faculties must be located in particular areas of the brain, and the brains of different species differ, so we can have a comparative psychology. He decided that a well developed faculty would correspond to a well developed area of the brain, and these areas would be larger than the areas where there are less well developed faculties. The relative size of these brain areas would produce different size of skull bumps over them. If a trait is pronounced, that person would have a prominent skull bump overlying a well developed areas of brain. This idea belongs to the old association between physique and temperament. Gall was genuinely a pioneer neuroanatomist, apart from his bump problem.

Gall made a list of unique behaviors and tried to correlate them with skull prominences; he located friendship, destructiveness, talents, etc., in particular brain areas. Later followers expanded his list of faculties. In this way he tries to be objective and explain individual differences. Gall suggested that there are 37 mental powers that correspond to 37 brain organs. The idea of separate brain organs helped to give rise to idea of multiple selvesthis led to a controversy about the unity or multiplicity of the ego that continues to be a problem. We will pick up this theme later.

Gall's student Johann Spurzheim (17761832) further popularized the idea of the brain organs and their bumps, and coined the term phrenology, although Gall did not like this word. Spurzheim made phrenology a popular psychology, and wanted to use it to reform education and penology. He was well received in the US, where later George Combe continued the idea, followed by Orson and Lorenzo Fowler. These two set up an office in NY city, where they would read character for a fee. They published a journal of phrenology from 18401911. For some reason, phrenology appealed to Americans; it was practical, and could tell you who was best for which job or who to marry. Although Gall had thought that faculties were innate, the Fowler brothers said that weak faculties could be improved by practice and strong ones controlled by will power. They became guidance counselors who tried to improve public morality; they believed in the existence of a faculty of veneration that proved the existence of God.

Later neuroanatomists (Rolando, Broca, Flourens) disproved the idea of phrenology, but its value was to force the development of the idea of brain localization. Broca showed that a man with speech aphasia had damage to the left frontal lobe. Gradually the brain was mapped out, such that different areas are allocated different functions. The idea of brain localization is still somewhat controversial; some people think that the brain reacts to stimuli in a unitary manner, holographically, and information is distributed throughout the brain. But clearly there is some localization.

In the 19th century, we see the beginning of serious physiological and laboratory studies in psychology, in an attempt to reduce the mind to brain functioning that still continues. The feeling was that this would make psychology a scientifically respectable field. As psychology started to become physiological, it really deviated from philosophy. Bell and Magendie discovered that the posterior roots of the spinal cord were sensory and the anterior roots motor; Johanes Müller discovered that nerves conduct awareness to the brain; Du BoisRaymond discovered that nerves conduct electrically; nerves were not hollow tubes conducting animal spirits. von Helmholz measured the speed of the nervous impulse. The culmination of 19th century advances in neurophysiology was the work of Charles Sherrington (18571952) at Oxford. His book *The Integrative Action of the Nervous System* paved the way for the work of Pavlov and Watson; he analyzed reflex activity in the spinal cord, discovered anatomical pathways, studied nervous coordination, and discovered that some neurons are excitatory and others are inhibitory. He and his student John Eccles really developed modern neurophysiology. Gradually, the idea that the *brain* connects stimuli and responses replaced the associationist idea that the *mind* connects ideas. The problem that arose, of course, is the nature of consciousnessdoes it have any role if everything is happening because of brain activity? Is consciousness just a byproduct? Are we automata?

Psychophysics

Psychophysics probably began with Ernst Weber at the University of Leipzig. He studied the sense of touch, and the threshold of detection of measured different qualities of touch, such as temperature and pressure, weight discrimination, and two point discrimination. Weber found that the smallest detectable difference between two weights is expressed by the ratio of the difference of the two weights to the absolute value of the weights. The just noticeable difference between two weights depends on how heavy the weights are; the heavier the first weight, the greater the difference had to be before the subject could perceive the difference between the first and second weights; the lighter the first weight, the greater was the perceptual sensitivity. He

tried to quantitate his research (1834) by measuring everything carefully, thus modeling his research after the natural sciences. Weber's law says that $\delta R/R = k$, where δR is the just noticeable stimulus, R is the magnitude of the standard stimulus, and k is a constant, for any sensory system, including the length of two lines, the brightness of two lights, pitch of two tones, etc. This is important because it gives a relationship between the physical and the psychological worlds[viii].

Probably the major name in psychophysics is Gustav Fechner (especially his 1860 *Elements of Psychophysics*.) He was a retired physicist who believed in the dual aspect theory of mind and body; they are two aspects of the same reality. He was basically trying to prove this to the materialists of his time using psychophysicshe wanted to show that we do not have to reduce mind to brain. After some kind of depressive illness, brought about by exhaustion and overwork, he developed a particular interest in spirituality and religion, and disliked the prevailing materialism.

Fechner tried to develop systematic laws of mental functioning that could be expressed mathematically. He also wanted to express mathematically the relationship between the spiritual and the material world. Before Fechner, people has assumed that the mind is not subject to mathematical scrutiny; minds are too private to measure. But Fechner realized that he could control the contents of consciousness by controlling the intenstity of the stimuli that the subject is exposed toweight, tones, etc. Picking up from Weber's work on just noticeable differences, Fechner studied thresholds of sensationthe amount of energy for a stimulus to be detected. He developed the method of asking a subject to repeatedly judge which of two stimuli, such as light flashes, is greater than the other. He quantified sensations of tone and brightness etc., and mathematically related the stimulus magnitude to the strength of sensation. He discovered that stimulus differences are easier to detect when both stimuli are of moderate intensity than when they are of high intensity; it is easier to detect the difference between a 10 oz. wt. and an 11 oz. wt. than it is to distinguish a 10lb wt. from a 10lb 1 oz wt.

Fechner believed that the universe is an organism with articulate parts that are alive; each stone or planet has its organization, and this means it has a soul; everything is conscious of itself and is responsive to its surroundingshe had a mystical grasp of the unity of all things. He was an absolute monist. (Fechner also studied the principles of beauty and aesthetics.)

Hermann von Helmholz (18211894).

von Helmholz studied the speed of a nervous impulse by measuring the time it took for an electrical impulse on a frog's nerve to make the muscle twitch. He also wrote a major work on physiological optics and studied hearing. Whereas Fechner studied sensory events from the perspective of underlying mental activity, which was the German tradition, Helmholz studied sensation more from the point of view of the empirical British tradition, which said that the physical determinants of the sensation are the most important; experiences explain perception, not visa versa. von Helmholz thought that Kant was correct that causation is an innate mental principle, but the other Kantian categories are of knowledge are not innate but acquired. He realized that we make unconscious inferences about our sense data, but he thought these inferences were the result of the accumulation of experiences. He realized that some perceptual experiences, such as depth perception, cannot be accounted for by the elements of the sensation itself. He thought that we infer perceptual characteristics as a result of repeated practice over timewe learn about depth perception. These inferences are so quick they are unconscious, and the brain inductively makes generalizations from one experience to another. He realized that perception was more than sensory physiology.

Helmholz was a great materialist; he put forward the idea of the conservation of energy, which means there can be no interactive matterspirit dualism. If energy can neither be created nor destroyed, a spiritual force cannot affect matter; his friend du BoisRaymond said that only physical forces are active in an organismno vitalism allowed. This kind of thinking influenced Freud. But Helmholz himself realized that materialism is itself a metaphysicshe disliked dogmatism.

Many 19th century researchers wanted to join psychology and physiology. One of the main synthesizers was Alexander Bain, who united associationism (Hartley and J.S. Mill) with the sensorimotor physiology of Müller. (Müller had suggested that the brain associates incoming sensory information with motor responses.) Bain argued for psychophysical parallelismany event has both a psychological and physiological aspect. He believed that the nervous system could act spontaneously, so we can have psychology that is independent of experiencethis makes empiricism more flexible. All this was before the function of the cerebrum was understood. Bain did no research, and his concept of mind was soon dated because he was just preDarwinthe idea of adaptation by means of evolution and heredity makes associationism outdated. But he influenced American pragmatists because his emphasis was practical, and he founded the journal *Mind*, which is a journal of philosophical psychology.

Psychological Testing

Psychological testing began in earnest in the 19th. century, initially for the purposes of public education. Universal primary education became compulsory in the second half of the 19th century. It was then necessary to have some standard of achievement, to evaluate students and measure differences in mental abilities. For this kind of testing, what was average was important. Francis Galton tried to measure intelligence by looking at childrens' exam scores in several subjects, to see if children who did well or badly in one subject did well in all of them. He devised the correlation coefficient and found a close correlation between results in different subjects, supporting his idea that intelligence is a single ability. This is a controversial idea; some people believe that intelligence is not one factor but is composed of multiple skillsthere are many intelligences of different types. Galton believed that sensory acuity and brain (head) size would predict intelligence,but Galton's tests failed since these are not good measures of intelligence. In the USA, Cattell continued the idea of mental testing.

Meanwhile in Paris Alfred Binet (18571911) was developing better ways of measuring intelligence than Galton. Binet initially studied with Charcot and did work on hypnosis. Unlike Galton, who studied simple sensory motor activity, Binet studied higher level cognitive skills, like playing chess. In contrast to all the German research on experimental psychology, Binet realized the value of studying the individual in great detail.

In 1904, the French government formed a commission to study how to educate mentally retarded children. Binet came up with a practical test to diagnose mental retardation; the test was based on a comparison of a child with what other children of his age could do, on a variety of intellectual tasks. Binet's test was much more useful than Galton's test. Binet's idea was taken up by Lewis Terman, who standardized the StanfordBinet and introduced rigorous intelligence testing.

In Germany, William Stern introduced the concept of the IQ. Using Binet's test, one can state a mental age of a child as a ratio of his or her chronological age. If a 12 year old passes all the typical 12 year old tests, his IQ is 12/12, or 1; Stern multiplied this by 100 to eliminate decimals. So a normal IQ = 100 (Stern himself came to realize that this was a pernicious idea.) This test showed that psychology could be applied; soon mental testing spread to other fields such as vocational and personality assessment.

Wilhelm Wundt (18321920)

Wundt was born into a family of élite German intellectuals, scientists, professors, and physicians. The son of a Lutheran pastor, his childhood environment was strict, mostly focussed on learning with little time for play. As a child and adolescent, he did not seem to have much aptitude for learning, and was a daydreamer. Perhaps motivated by his family's financial difficulties, he eventually went to medical school and became an outstanding student. Eventually he became an austere, rather dour workaholic. Wundt was something of an anomaly in German psychology, which tended to be interested in the activity of the mind, especially as this had been described by Kant and Schopenhauer--the tendency was towards a metaphysical approach. But, Wundt viewed psychology as a science; initially he called it a natural science (*Naturwissenschaft*)--he wanted to use the methods of biology, physics and chemistry to study the mind, using rigorous experimental methods. Later, he came to view psychology as a science of the spirit, a humanistic enterprise (*Geisteswissenschaft*.) Wundt had been an assistant to Helmholtz for several years, and was well trained in the physiology of his time.

Wundt established psychology as an independent academic subject in the last part of the 19th century. He created the first academic laboratory in psychology at the University of Leipzig, in 1879. At first, Wundt was basically a physiological psychologisthis *Principles of Physiological Psychology*, 1873, defined the subject and made an alliance between physiology and psychology, which made his work respectable. He assumed that when the brain was active this would produce a corresponding sensory experience. This approach gets away from the soul as the subject of research and concentrates on the investigation of physiological events as the basis of consciousnessit is a form of materialistic reductionism, although Wundt himself eventually moved away from this view. In his early work, he tried to gather data that would allow him to infer details of unconscious processes. In his later years, he rejected the idea of the unconscious, and he gave up on the possibility of learning about higher level mental functioning and concentrated on simple conscious experience. Also, as time went on, Wundt could no longer see psychology as an extension of neurology, and he changed the name of his work to experimental psychology.

Wundt used the method of introspection to study the mind, to try to search for laws that govern it. Traditional philosophical introspection of the type practiced by Descartes and Lockethinking about thoughts and feelings had a bad reputation by his time, because it was considered to be too subjective and unreliable. Wundt called this armchair method internal perception, and dismissed it as uncontrolled and random. Wundt realized that he needed objective data that could be replicated, based on standardized conditions. This is why he introduced experimental techniques, and what he called experimental selfobservation. In this method, people are exposed

to standard, repeatable situations and asked to report on their experiences. The error of the untrained introspectionist is to report on the object observed, but the trained worker reports on the immediate, conscious experience itself, trying not to be influenced by previous experiences and associations. The aim of this work is to study the *contents* or *structures* of consciousness, rather as if the mind were like a chemical compound that could be broken down into its constituent elements. Consciousness was defined as immediate experience. The trouble with the method was that there is no group agreement among trained introspectionists about the properties of sensory experience.

For example, the subject would listen to a metronome at different speeds and report on the feelings that are generated in him. He tries to identify the conscious processes of perceptionsimple feeling states. Wundt addressed the question of how many ideas can be contained in consciousness at a given moment by flashing a stimulus on a screena group of letters or wordsthrough a slit in a revolving drum. The subject perceives them but does not have time to really recognize them; then he apperceives, consciously remembers some of what he saw. What is recalled gives an idea of how many simple ideas can be grasped in a brief time. Without practice, people see about four random letters; with practice this goes up to six. If the letters are in a meaningful word, recall is betterup to 16 letters. This meant to Wundt that the letters are synthesized into a greater whole that is grasped as a single complex idea, or one new element. The debate that followed was about whether a whole word is better remembered because of associations to the word, or whether the word is a gestalt, a meaningful whole in its own right, or whether the word is a meaningful whole that is imposed on the individual elements by the mind's organizing power (Kant.)

Wundt thought that our experience consisted of elementary sensations, images and feelings that combine to form more complex mental states. Combination requires a process called apperception, which is a creative, synthetic process that accounts for higher mental lifeapperception joins isolated elements together, and links the experience to past experiences, so that the experience can be assimilated and made conscious[ix]. (Note that here, Wundt abandons his usual empirical approach, and becomes nativistic, relying on the mind's intrinsic activities.) Apperception is the creative act behind perception that recognizes the logical connections between different sensations. Wundt suggested that feelings are the result of the apperception of sensations that are pleasant or unpleasant, calm or excited, and so on. He believed that apperception is a voluntary act of the will that synthesizes mental life; the feeling that we are active and in control produces a feeling that we have a self and a mind. Here he borrows from Schopenhauer, who also believed that the will is not necessarily conscious. Volition for Wundt

means the reason for acting in a particular way; the origin of volition is in character, which includes the whole complexity of culture, heredity, beliefs, opinions, etc. that make up a personality; he realized that volition is not just a matter of brain events.

Because he wanted to exactly replicate laboratory conditions of introspective experience, Wundt could only study simple mental processes and conscious experiences. In this he followed the Kantian idea that the transcendental ego is outside the possibility of experience.

One of Wundt's students was Külpe in the University of Würzburg, who studied the process of thinking introspectively. Whereas the structural psychologists believed that thought processes are composed of elementary sensations, Külpe found that thoughts can be holistic--they cannot be broken down into simpler elements, and they are not necessarily associated with images. This was a serious challenge to Wundt[x]. The Würzburg school found that some contents of consciousness cannot be traced to feelings or sensations. They decided that the mind is predisposed to order experience along dimensions such as time and spaceKant's mental categories. The mind has its own “determining tendency;” it is prepared to perform some tasks unconsciously by virtue of characteristic mental sets that result in patterns of perception, or attitudes that might be decisive in behavior but not available to introspection. These are unconscious determinants of thinking.

A person’s mental sets were demonstrated when Külpe investigated why one idea follows another in a particular direction. He found that it was too simplistic to assume that associations direct thought. Thus, the word "mother" may lead to an association of "home," but if you direct the person's thinking in a particular direction, by setting a question like "what do mothers do?" then the word "mother" may lead to "nourishment" or some other association. Clearly therefore, thinking did not depend on associations alone. The Wurzburgers said that the task that is set in thinking determines the tendency of thought; the task establishes a mental set that directs the mind. Thoughts are not passive representations or objects in the mind; thoughts are *acts* that are directed at the world. Thinking aims at somethingwe will see more of this idea when we look at Brentano. It seems that Jung’s work on word associations was influenced by these earlier experiments on association.

The debate about whether thought could be imageless or not, dragged on. Finally, people began to mistrust the whole introspective enterprise as too unreliable and too influenced by preconceived ideas. You find what you look for introspectively. The behaviorists killed the idea of introspection once and for all in American psychology. Essentially, this way of studying the

mind went nowhere because it was too subjective and it is too hard to pin down discrete elements or contents of the mind; to study the mind is not like trying to study atoms of matter. What took over in the USA was the question of mental activity; under the influence of Darwin, the question became: how does the mind help an organism to evolve and adapt to its environment? This seemed more important than knowing how many visual elements there are. Wundt trained or influenced many important psychologists, including Kraepelin and Titchener, but he had little permanent influence, except in his idea of psychology as a science and the use of experimental methods. Wundt's own generation of contemporaries resisted his idea that psychology is an applied science; they wanted it to be a branch of philosophy, of knowledge for its own sake. They were most concerned with how the mind knows the world, not, like American psychologists, with how we can improve the mind's adaptation. Wundt was basically an idealist who studied individual consciousness and stressed human will as a unifying force in mental life. But most German idealist philosophers (like Hegel) did not like the idea of psychology as a science, because it focuses too much on the individual, whereas the idealists wanted transcendent Platonic knowledge of the noumenal reality behind appearances and the individual mind. Therefore, empirical research seems relatively trivial to idealists--it still does.

Wundt's introspective method was followed and promoted in the USA by his student, Edward Titchener. Their system is called content psychology, because they study the contents of the mind, or structural psychology, since they studied mental structures. This school thought that physics studies the material world through observation, and psychology should study the contents of consciousness through controlled introspection. Titchener was one of the founders of American psychology (he was born in England, and trained in Oxford, but ended up at Cornell) but his thinking was largely rejected by subsequent American psychologists. It was too influenced by Wundt's introspective approach, and America was going towards either functionalism (the pragmatism of James, Peirce) or behavioralism. (Functional psychology means the emphasis on mental processes rather than mental content; it valued the usefulness of psychology, stresses evolution, survival and adaptation of an organismhigher mental processes evolve because they are adaptive.) Against all this, Titchener was mentalisticthe belief in mind as a separate essence, sometimes meaning idealism, sometimes referring to emergent mentalism which teaches that consciousness arises from a physical state as a new propertyan idea that the behaviorists and materialist physiologists rejected.

Titchener was a Humean positivist; he believed that the mind is made up of sensations or images of sensations, and nothing else. So, he rejected Wundtian ideas like apperception, because it is an inference. Titchener was not a Kantianhe did not believe that the mind is separate from its

experiences. He wanted to find the basic elements of sensation that is the building block of all complex sensations. He thought there are 30, 500 visual elements, four taste elements, and three alimentary elements; an element is the simplest sensation that can be experienced; they can be discovered by systematically dissecting ones introspective experience. If there is an experience that cannot be broken up into smaller parts, it is elemental. His method of introspection is not just to report the experience but to retrospectively analyze it; one is attentive to the stimulus, then when it is removed one recalls it by memory as vividly and completely as possible.

Having found the elementary sensations, Titchener tried to find out how the elementary sensations are connected together to form ideas and images. (This is not the same as associationism, because the associationists were interested in the association of meaningful ideas, not simple meaningless sensations, which Titchener studied.)

Since introspection is only descriptive, he could only explain mind using physiology; he rejected Wundt's attempt to explain mind psychologically. His ideas were an attempt to turn British philosophical psychology into a science of the mind. His ideas were not too influentialthey felt like a dead end, partly because of the unreliability of introspection. Structural psychology tries to adhere to a natural science model of psychology, and it has to overlook psychological processes that do not fit into its methods. As well, Titchener refused to take an interest in the practical applications of psychology such as child psychology, abnormal psychology, individual differences. He was a rigid character who would not tolerate disagreementhe would not join the APA when it began, because of a dispute.

Phenomenology

Meanwhile, important alternatives to this kind of positivistic attempt to make psychology into a natural science were developing. Some people disagreed with the kind of restrictions that Wundt and Titchener had tried to imposeit was felt that they had artificially imposed pretheoretical assumptions onto lived experience. One alternative came from Wilhelm Dilthey, a historian, the other from Franz Brentano's act psychology. These people wanted to describe consciousness as it is natively, without presuppositions about the nature of consciousnessthis method is called phenomenology.

Phenomenology is a very different approach than that of Wundt and Titchener. Since Titchener tried to analyze consciousness into its component pieces, he is in the Cartesian tradition that takes for granted the idea that consciousness is made of some kind of stuff that is analyzable into

its component parts, just as the physical world can be. Wundt thought that the mind actively synthesizes the elements of experience into consciousness, where association has a minor role, acting like gravity to draw ideas together. Whereas Wundt thought that elementary or atomic sensations were imaginary, not real, just a heuristic device, Titchener believed in the reality of sensory elements and thought that associations were the main source of mental organization.

There is an alternative way of thinking about the mind that is rooted in perceptual realism; if we are in direct touch with the world, there is no mind stuff to analyze into its components! Instead of analyzing experience, we can simply describe itthis is the approach of phenomenology, which says that the individual and the environment are inseparable. A psychological event is a phenomenon that cannot be analyzed into its component elements without loosing its identity. A phenomenon is simply something that happens; phenomenology studies the event for itself, without trying to explain its causes or inferences. The contrast is with approaches that try to analyze events into elements, or reduce them to other levels of explanation.

Franz Brentano (18381917)

Brentano was a proponent of realism. He was a Dominican priest who studied Scholasticism and Aristotle; he broke with the Church over the issue of Papal infallibility that had been declared in 1870. During the period around 1870, the Church was threatened by the ideas of intellectual liberalism and political nationalism that were emerging in Italy, and so had deveoped an anti-intellectual stance that Brentano did not like. In 1873 he left the priesthood and attacked the Church hierarchy. The conservative forces of the Vienna theology faculty where he had been teaching (Freud took philosophy classes from him in Vienna) then persecuted him until he left to go to Florence. His most important work is *Psychology from an Empirical Standpoint*, 1874.

Brentano felt that the Cartesian "way of ideas"[xi] was an artificial, metaphysical assumption superimposed onto experience; he tried to describe consciousness as it is naively given in experience itself. For Brentano, mind consists of mental acts directed at meaningful objects outside itself. Mind is not a collection of mental objects made up of sensory atoms. In contrast, for the CartesianLockean theory of mind, mental objects represent physical objects that are external to us, and the ideas we have of objects only represent the objects indirectly, because the ideas are made up of meaningless sensory elements. Consciousness is an assembly of sensory bits, and we don't know to what extent an idea in the mind corresponds to an object; we are not sure if we have objective knowledge of the world. (This Cartesian approach is slightly paranoid!). But, for Brentano, an idea is a mental act by which I grasp the object itself, so an

idea cannot be broken into its component parts. The mind is ordered because the world is ordered, not because associations act like gravity to bring ideas together, as in Hume, or because the mind imposes order on the world, as in Kant. The mind is the means by which we actively grasp the real world.

Brentano's work is called act psychology because he defines psychology as the science of mental phenomena expressed as acts and processesit is not about the brain or the associations of ideas; consciousness is a unity that we express by acts. Structuralismfinding the elements of consciousnessis meaningless to Brentano because it destroys the unity of consciousness; if there were such a thing as a discreet mental element, it would have no meaning. Only the products of consciousness, acts and processes, are truly psychological. There may be a biological substrate to consciousness, but this is not identical with psychological acts. Psychology studies intentionality, our ability to reach for an object or a goal beyond ourselves. Acts are intentional and directed, and we can describe acts in terms of the subjective, experiencing person. If we describe a person's experience well enough, we can explain and understand it. Brentano wants to describe consciousness rather than analyze it into pieces. Thus begins phenomenology, beginning with his student Husserl (18591938), then Heidegger and MerleauPonty. Husserl applied the phenomenological method to psychological issues in an attempt to develop a pure science of consciousness using detailed description of mental life.

Another objection to the natural science view of psychology came from philosophy. Wilhelm Dilthey (18331911) argued that natural scientists explain physical events, but psychologist try to understand the reasons and motives that lie behind them. When we study intention, we are in the realm of the subjective mind; we cannot answer the question of why someone did something from the point of view of brain physiology. The study of intention goes beyond natural scientific explanations; it is artificial to try to make the meaning of an event conform to physiology.

Similarly Henri Bergson (18591941), in his *Introduction to Metaphysics*, argued that scientific methodology for studying problems like time and motion distorts our understanding of them; he believed that we cannot understand life by means of natural science methods. For example, if we study a moving object, physics describes it in terms of velocity and forces. But, Bergson says all this is knowing from the outside, using concepts and symbolsthis is mediate knowledge, in which some symbols mediate between the object and our mind. There is also direct knowledge of an object, in which we identify with it using our imagination; we empathize with the experience of movement. Here we know the object from within, immediately, directly, nonsymbolically. This gives us intuitive knowledge, which tells us about the essence of movement, as distinct from the

partial knowledge of the symbolic or physics approach that just gives us a concept. For Bergson, intuition means intellectual sympathywe would say empathyby which we place ourselves inside an object in order to coincide with what is unique in it, and consequently what is inexpressible about it. Scientific or symbolic knowing is analyticalit breaks up the object into aspects or elementsthen we don't get it as a unity, and the object looses its uniqueness. If we study motion, the results obtain to all moving objects; there is nothing special about this particular object. But intuitive knowing gives us uniqueness and individuality; it dispenses with language, which gets in the way of penetrating to its reality. Symbolic or mathematical knowledge is not living knowledge of the object but an abstraction from the object.

Bergson believed that science gives us analysis but metaphysics is the exercise of intuition, so science gives us only a static picture of reality while metaphysics, using intuition, gives us living knowledge of reality. Science should base its theories on metaphysical intuition, so that it stays in touch with what is real; we should build concepts *after* we have grasped the inner nature of the object, which allows us to really know it. Great science springs from intuition and flashes of insight. Intuition is the faculty that enables us to grasp in a moment the meaning of a poem. Bergson is one of the people who is skeptical about science, as if it shuts us off from reality. He thinks we can get to what is real by direct, unmediated contact, by participating in reality.

Back to the psychologists; Brentano's version of realism also gave rise to Gestalt psychology; the link here is Karl Stumpf (18481936), a student of Brentano. An excellent musician, he debated Wundt about music; should music be described through introspection that reduces it to its constituent sensory elementssingle notesor should it be understood as a unity? Stumpf's students were Köhler and Koffka, who are two of the founders of gestalt psychology; they were inspired to describe consciousness as it is, not as empirical atomism says it ought to be. Both Gestalt psychology and phenomenology recognize the inherent organization of the mind--in a way, neo-Kantian.

Gestalt Psychology

Gestalt psychology was one of the major challenges to Wundt's reductionistic, natural science model for psychology. The word "Gestalt" means a unified configuration or form; a figure that is more than the sum of its parts. This way of thinking about the psyche sees psychological events as organized, unified and coherent. For Gestalt psychology, we cannot break psychological events into their component parts; learning is more than the physiology of conditioning. The word Gestalt was introduced in about 1890 by Christian Ehernfels; he pointed

out that a melody is more than a sequence of noteswe can change the key without changing the melody, so there may be form elements that compose the objects of consciousness as well as sensory elements. He did not know what these form elements are; perhaps they are objective structures that exist in the world and are picked up by consciousness, which philosophical realists and phenomenologists believe.

Gestalt psychology continues the tradition of the act psychology of Brentano and Stumpf; it is partly Kantian, because it assumes that the organization of the mind predisposes us to interact with the environment in typical ways. It is also nativistic, since it focusses on innate mental equipment and how that makes us interact with our surroundings.

According to Gestalt psychology, a person interacts with the environment with a perceptual field that is organized in terms of a figure and ground. This way of seeing things is innate and spontaneous, not acquired; we are wired to see the world this way. So, incomplete figures tend to be seen as complete, because we seek closure; we seen an incompletely formed circle as a circle. This way of organizing the environment leads to meaning. We also have object constancy; a small figure on a screen is still a person, even if the image is small.

It had always been hard for the empiricists/associationists to explain how bits of meaningless sensation are formed into meaningful, organized objects of perception. Gestaltists reject the atomistic theory of consciousness that says that associations link the elements together. They reject Descartes' notion of a mental realm that may or may not represent the world at all. Is the world of the mind really cut off from the physical world? Gestalt psychology rejects Cartesianism (that severs mind and world) completely, and *describes* consciousness, rather than analyze it. The associationists believed in a bundle theory of consciousness; objects are made up of elements bundled like chemical elements. But Max Wertheimer realized that this is not how we see thingsit is not a natural description of consciousness; I do not see discreet bits of color and shape, I see a landscape.

The Gestaltists also criticized the hypothesis that all sensory elements in consciousness correspond to a physical stimulus registered by a sense organ. For Descartes, perception is the result of pointtopoint projection of a stimulus onto the screen of consciousness, like a camera. Each point on the retina goes to the pineal gland by means of the nerves. But the Gestaltists point out that we perceive in wholes; we see shapes that are not physically present in a literal sense; we see objects in consciousness as meaningful wholes, not as bits of sensation. The mind does not impose Gestalts on experience, rather the mind *discovers* the objective reality of

Gestalts in experience. Gestalts are physically real organizations in nature; just as, in the material world, we find that dynamic forces organize materials into elegant forms, so too the brain, which is a dynamic process of self-organizing fields, according to Köhler. He thought that Gestalt psychology is an application of field physics to psychology and brain physiology. This idea addressed Pavlov, who criticized the Gestaltists for being too mentalistic; he thought that they did not have an adequate physiological explanation for their ideas (meaning it did not agree with the way he thought the brain works). Gestaltists believed in the principle of isomorphism between brain and mind; what goes on in perception goes on in the brain in a parallel way; there is a brain field that corresponds to the perceptual fieldthe brain makes a field that is an analog of the perceptual field. Brain organization and the environment are isomorphic with each other.

The early workers in Gestalt psychology were Wertheimer, Köhler and Koffka, all born in the last 20 years of the 19th century. Wertheimer studied the perception of motion; using a stroboscope that flashes black bars on a white background in two different but fixed places, he found that if he presented the bars with an interval of 30millisecs. the bars still appear simultaneously; but if the interval is 60millisecs., the bar seems to move from place to place. Wertheimer called this the phi phenomenon. Until his work, this phenomenon was called apparent motion, as if it was an error, since the observer is actually seeing two objects in two places but there is no actual movement. But Wertheimer[xii] argued that the movement is real, not illusory, genuinely given in consciousness even though it does not correspond to a physical movement. Objects are present in consciousness as wholes that are meaningful, not as a collection of atomic sensation.

Köhler studied the intelligence of apes and showed that they solve problems using insight to solve puzzles; they do not rely on trial and error learning; they develop Gestalts. They suddenly discover the solution to a problem as a Gestalt. (His best chimp student was named Sultan, described in *The Mentality of Apes*, 1925). Thorndike had proposed a learning theory of animal problem solving (cats in a box they have to escape from) that was based on SR associationsessentially a trial and error method. The Gestalt explanation was an alternative to the behavioral model.

There was opposition to the Gestalt idea from the school of holistic psychology of Krueger, who was Wundt's successor at Leipzig; he was a Nazi sympathizer who tried to justify Nazi racial policies. He insisted that Gestalts are imposed by the mind, and cannot be objective, not discovered in the environmenta purely Kantian view. Under the influence of Krueger and his student Sander, another supporter of the Nazis, psychology in Germany became autonomous but

only because most of the leading intellectuals had left Germany, including the Gestaltists and Freud. The *Wermacht* only wanted psychologists who could select officer candidates and support National Socialism. Accordingly, in Germany the whole field went down the drain until the 1950's, when German psychology essentially became American.

Gestalt psychology was introduced to America by Kurt Koffka, who studied with Köhler but ended up at Smith College; his *The Growth of the Mind*, 1921, was an important contribution to child development. Initially Gestalt psychology was unpopular in the USA; most of the early workers were German refugees, and they arrived at a time when behaviorism was taking over. One exception was Kurt Lewin (U. of Iowa, and MIT), who became a very effective Gestaltist in the USA with his work on group psychology; his workshops for community leaders about interracial tensions, in the 1940's, led to the encounter group movement.

Gestalt psychology petered out as a separate discipline, or was absorbed into behaviorism by people like Tolman. There were several critiques of Gestalt psychology; it was said that it was antianalytic, although it really is notGestalt just says that if you study an isolated piece of experience, one atom of experience such as a single color, it is not the same as that experience in its whole context of lived experience, *in situ*. Individual elements of experience do not provide the phenomena of our psychological lives.

By the end of the 19th century, philosophical psychology that worried about how the mind knows reality (in the German *Bildung* tradition, the purely humanistic tradition of high culture and self formation) had competed with experimental psychology and applied psychology, and lost. The psychology of consciousness in the mode of Wundt tended to disappear, although it is still around in studies of perception and in cognitive science.

American Functionalism and the Psychology of Adaptation

In the 19th century, scientific developments confirmed the value of empiricism, and Darwin had provided empirical support for the theory of evolution, an explanation for how species adapt to the environment. Americans liked Darwin, since he gives them a reason for the progress of America; there was social evolution occurring, and great potential (Jeffersonian ideas of democracy are built on the idea that we are born equal and we can improve ourselvesa Lockean view). After Darwin, psychologists asked new kinds of questions about the individual and the species: How does each aspect of human nature help in adaptation? How do we learn to adapt to our environment? How are species different from each other, based on different evolutionary

histories? If species are very different, then we need different psychologies of adaptation; but if they are more similar than different, the same laws of learning apply to different speciesthe behaviorists believed this latter idea, so they could generalize their results from one species to another. Above all, why are we conscious beingswhy did consciousness evolve? Why is it necessary for adaptation?

At the turn of the 20th. century, the US was just beginning to tap its huge resources and exert its real strength internationally. The country was still hurt by the civil war, and there were serious racial and social inequalities. But Americans tended to have faith in themselves, they were idealistic, and they had a sense of purpose. In the later part of the 19th century, American universities started to upgrade; prior to that Americans had to study in Europe. So, psychology came in to the USA at a time when the universities and the nation were expanding; they liked it partly because it was new, and they felt that it fit well with the new country they were creating. The field benefited from this atmosphere and overtook European developments. For example, when Wundtian psychology got to the USA, it became much less rigid. Functionalism developed; this type of psychology values mental processes rather than content; it values the usefulness and the application of psychology. Functionalists want to know how the mind works, not just what contents and structures are in the mind. The Americans retained the Lockean aspects of Wundt, but added the importance of Darwin; to ask how people adapt to the environment fits with the tamingthewildcontinent mythology. But American functionalism did not last very long, since it evolved into behaviorism, as we will see.

William James (1842-1910)

The early forerunners of American functional psychology were the pragmatists. William James was the link between the old and new ways of thinking. His grandfather, William James of Albany, had made a fortune and was a leader in civic and religious affairs. One child, Henry James, the father of the psychologist William and Henry (b. 1844) the novelist, was a spiritual seeker with an interest in all kinds of religions. As a child, William's father Henry wrote, they were traditional Protestants, in an oppressive way. On Sundays the children were not allowed to play, read or walk in the countryside or swim or whistle. Henry snr. grew up with a painful conscience, and a feeling that God was remote and distant from him, that he was alienated from God. At the age of 13, Henry snr. burned his right leg so badly trying to stamp out a fire that it had to be amputated above the knee. Further surgeries followedall this at a time without anesthesia. During a long convalescence he became very introspective. He eventually studied theology but found the strict Presbyterianism at Princeton as oppressive as it had been at home.

He had enough inheritance to live on, and so he wrote prolifically. He was a restless character and the family travelled constantly, absorbing world culture. When William (the psychologist) was two, his father had a terrifying experience of abject terror with no apparent cause; he imagined that there must be something invisible in the room causing it; he felt like a wreck, and was reduced from being vigorous and joyful to "helpless infancy." The doctors told him he had overworked his brain; someone told him to read Swedenborg; under this influence he found a new image of God, of love and wisdom, and realized that God's real creation was the whole of humanity, in which there is no real selfhood. Henry snr. was interested in all kinds of mysticism. This became important later to William; he wrote *Varieties of Religious Experience* to help justify his father's faith. (Someone else who tried to help his father with his religious problem.)

Because of his own overly disciplined childhood, Henry snr. allowed his children to remain as natural as possible, and tried to bring them up lovingly. William and Henry had a rather chaotic education, in which schools and tutors were often changed. Henry (the author) wrote that "we wholesomely breathed inconsistency as we ate and drank contradiction." They kept moving from country to country. The boys' mother was apparently sweet, gentle and kind to them, and she held things together in the home.

William James early on had some talent as an artist, and thought of becoming a painter. But his father did not like the idea, and William was told that America did not value painters. When he gave up painting, he developed eye problems and indigestion. He went to Harvard, studied chemistry and comparative anatomy, then went to medical school. But he was prone to severe depression; he said he was on the "continual verge" of suicide. His sister Alice was prone to attacks of hysteria, falling into faints for no apparent reason. William also had severe back pain, so he spent a year in Germany to take the mineral baths. His pain and depression continued; he was apathetic and restless, with limited energy, and often periods of exhaustion. Thus began his interest in the relationship between body and mind. Eventually he came back to the USA and finished medical school. That year he went into an extremely severe depression (giving us the distinct impression that medical school was not quite right for him) leaving him a semi-invalid, unable to work. He came across the philosophy of Renouvier, who wrote about the importance of free will, which he defined as “the sustaining of a thought *because I choose* to when I might have other thoughts.” Renouvier’s ideas seemed to support William’s wish to direct his own life; Renouvier recognized that personal belief was important in areas that could not be decided by logic and empirical evidence. William decided that his first act of free will would be to believe in free will. He felt that he could make himself well by an act of will, and he changed impressively at this time, giving up all ideas of determinism, both scientific and theological.

Renouvier also made William James interested in what he called the "selfgoverning resistance of the ego to the world." This philosophy is said to have helped him through his suicidal period, but there is some controversy about how helpful it was. Later, James wrote about the will to believe. The idea of the importance of will made him defend the Boston mind healers of the time when the medical doctors were trying to get rid of them; James pointed out that we should call on any source of help we can.

When William James was 32, he fell in love with his wife to be, also called Alice, but he believed that he was too unworthy to marry her and sent her agonizing letters trying to delay things, until they were finally married. His sister hated his wife. It sounds as if his wife helped him through his depressions, but their letters will not be available until 2023.

When William was 40, his mother died, which so distressed his father that he refused to eat, and so committed suicide.

At first, William James advanced his philosophy as a branch of psychology. His *Principles of Psychology* was published in 1890. This book inspired American psychologists and set the tone for the next several decades of American psychology. James defined psychology as the science of mental life. In contrast to Wundt, James did not believe that experience is a succession of discrete sensations bound together by associations; neither did he like the idea of sensationalist atomism that Wundt had also rejected. This theory takes the world as made up of bits, which falsely chops up the flow of experience; for James, experience is a continuous flow of subjective events. Experience is not a chain or train where one segment pulls the next; experience flows like a river or stream. James' model of consciousness as a continuous stream of experience is a larger vision than the Wundtian model. James's model is an empirical approach to experience that focuses on the functions of the mind, on observing the mind in action.

Following Darwin, James said that what consciousness contains is less important than what it does; function counts more than content, and the main function of consciousness is to choose, which enables us to adapt to the environment. So the mind works on the data it receives, like a sculptor working on stone. The mind is not passive or a blank slate; it is actively engaged with the world. If we did not change, we could not adapt to the environment; we have to have consciousness so we can cope with changes by adapting. Consciousness arises when instinct and habit are not enough to deal with new environmental challenges; we make choices to survive, so choice is an important aspect of consciousness. James thought that without consciousness there would be no survivalwe would be clockwork, blind to the environment and uncaring about what

happens. Jung says the same thing; it is hard to know whether Jung picked this up from James, or whether he arrived at the importance of consciousness independently.

In 1884, James tried to answer the question of the nature of emotion. What actually is fear or pleasure? He formulated what became known as the JamesLange theory of emotions, which the Danish psychologist Carl Lange also formulated at the same time. This theory says that the body responds with automatic reflexes when confronted by emotionally important situations; these are visceral reactions. When we become aware of them, we then label them as emotions. If you are in danger, you feel your heart race, you sweat, etc, and the subjective experience of these autonomic effects is called fear. In other words, first the physiology happens, then the psychology. Emotions are the *result* of autonomic activity, not the cause; emotions *are* the state of the body. This is an example of how he tries to include body and psyche in his theory of consciousness. The idea is Darwinian, based on the view that any stimulus that the brain receives automatically brings about an adaptive response; I run away from a frightening situation automatically. This has evolutionary value. (But what does my fear add to the logic of seeing a bear and avoiding it, which is sensiblethere is no need for an emotional response of fear.) James thought that emotion is simply the registration in consciousness of the state of the body caused by the sight of the bear. That is, the contents of consciousness are partly coming from the outside environment and partly coming from feedback from the state of the body. If emotion is the result of our registering an emotionproducing stimulus, eg seeing a bear, and the body/brain responds automatically, then we feel afraid because we are running away. Fear is just our name for the way we feel when the body is doing its thing. Here James became caught in a dilemma. If we have a purely brain-based view of consciousness, and consciousness is important for survival, then the brain is making our choices and we become automata rather than conscious beings with free will. If our own will and consciousness are not causing us to run away from the bear, we could ignore consciousness to study the causes of behavior and just stay with the brain.

James was in difficulties here because on the one hand he valued free will very muchit was crucial to his belief systembut intellectually he felt he had to be a determinist because it was the only respectable view of behavior. In the end he resisted mechanistic views of human being, and stressed consciousness as the thing that is in charge. For example, when he discussed attentionour choice to choose to attend to one thing rather than anotherhe has to decide between two views. As a natural scientist he wants to say that attention is the effect of cognitive processes that we cannot control, but on moral grounds he preferred theories of attention based on attention as a willful actotherwise we have no free will and no responsibility. But in fact,

morality is not a scientific issue, so we cannot comment on free will, even if we don't believe in it on scientific grounds. (Rather than saying that body reactions cause emotions through our awareness of themfirst one then the other happensperhaps there is a synchronicity involved, so awareness and body reaction are not split temporally.)

James wanted psychology to be an applied field, something that would help people to make a difference to lifea very American attitude. This fits with his own definition of truth; a true idea makes a difference. He wanted psychology to be a natural science, and largely treated behavior as the result of physiologically rooted reflexes and impulses. He thought that psychology was essentially a branch of biology, so he stressed the importance of physiology, saying that the brain is the one immediate bodily condition of our mental life. He thought that the psychologist also has to be a cerebralist. He said that the laws of association are cerebral laws, and association occurs between processes in the brain. But For James, mind and body are not two interacting systems; like Spinoza, James thought that mental and physical events are two different aspects of the same experience; the difference between mind and body is an artifact produced by different ways of describing experience, which is singular.

James made a controversial contribution to the long-standing debate about the nature of consciousness in a 1904 paper titled "Does 'Consciousness' Exist?" (*Journal of Philosophy 1,* 477-91). He believed that consciousness is a function and not an entity or a first principle of psychology. Consciousness should be disgarded in favor of its pragmatic equivalents, which are the realities of experience. Experience exists, such as sensation, but there is no separate thing apart from experience, which is what reality is made of--a kind of idealism. Out of this debate grew two theories of consciousness that were to support the development of behaviorism. The first is neorealism. In the Cartesian tradition, consciousness contains copies of the world, so consciousness is a separate mental world of representations, separate from the world of things. This inner world is known through introspection, while physics studies the outer world of objects. When the copy theory of consciousness was challenged, a new form of perceptual realism was suggested. Neorealists say that there is a world of objects that we know directly, without mediation by internal representations; we can directly know an outer, physical world. Consciousness is not an inner world, but the relationship between self and world. For the neorealists, consciousness is experienced sensation, and mind and behavior are the same thing from a functional point of view; consciousness is behavior. Neorealism did not last because it could not account for errors; if we really know things directly, how is it that our perceptions can be mistaken?

At the same time, James Dewey developed a functional concept of mind called instrumentalism, which emphasized mind as actively acting on the world. He objected to any kind of "spectator theory" of mind--meaning that the world impresses itself on a passive mind which is just watching objects, as in Descartes, or that, as in the neorealist position, consciousness is determined by the objects to which we respond---still passive, even if this happens directly rather than through ideas. For Dewey, mind is about the ability to anticipate future consequences and respond to these consequences as if they were stimuli to present behavior. Mind is a set of representations of the world that function to help the organism adapt to the environment, to be instrumental in the world. That is, something is mental if it has meaning. Mind, especially thinking, for Dewey is a social construction, which gets rid of the Cartesian notion that the individual mind is private.

Psychology lurched inexorably towards behaviorism after James. Consciousness had no special place. American psychologists moved away from the contents of consciousness in favor of the study of behavior and mental functioning, looking at how an organism adapts. Adjustment was paramountthat was what the country needed.

After writing his psychology book, in 1892 (the year the APA was founded) James moved to philosophy and gave up psychology to develop pragmatism. The conflict between head and heart remained.

Pragmatism

The basic ideas of pragmatism were developed by Charles Saunders Peirce (18391914), some years before James. Peirce is considered to be one of the greatest American philosophers. He was a physicist who summarized the ideas of the Metaphysical Club, a group of Bostonians who met in 18712 to discuss philosophy. Oliver Wendell Holmes (the jurist), Chauncey Wright (an early learning theorist), Peirce, and William James were members. They developed pragmatism, which is a mixture of the ideas of Bain, Darwin and Kant, in opposition to the dominant Scottish philosophy, which was very popular the USA. The Scottish approach was the common sense realist approach, and it was popular in the American collegeswhich were largely Protestant controlledbecause it was a safeguard against the danger from skeptical, atheistic empiricists like Locke and Hume, who were banished from the classroom. Only Reid's followers were allowed to teach. For these American Scots, psychology is the science of the soul, and introspection is its method; this reveals the soul to be an emanation from God, so psychology is the foundation of morality. This old school psychology did not like the laboratory methods of the new thinking.

The Scottish common sense school was also opposed to the dissection of mind into associative bits; they did not want a psychology that ignored human dignity; this school fit well with Calvinism and the pioneering spirit, and the need to believe something simple while struggling to survive on the frontier. But, the Bostonians felt the Scottish approach was too dualistic, and too religious.

The Metaphysical Club believed that, contrary to Kant who sought the foundation of certain knowledge, truth could not be fixed; belief could not be certain. But Kant had also said that we have to act on certain beliefs even though they are not certainKant called these contingent beliefs, which are pragmatic beliefs that enable us to achieve an end. Following this idea, the Club decided that we can only believe in whatever leads to successful action in the world (a rather silly idea, actually, since it depends on how you define success); natural selection operates to strengthen certain beliefs and weaken others. Peirce published this conclusion in 1878; he said that the function of thought is to produce habits of action, and what we call belief is really a rule we have that governs our actions. Belief means that we have established a habit, and different beliefs give rise to different habits. Different habits lead us to act in different ways. According to Peirce, the truth of a belief lies in its conceivable bearing upon the conduct of life. To ascertain the meaning of an idea, we have to consider what practical consequences could conceivably result if the idea were true; the sum of these consequences constitute the entire meaning of the idea. The effect of the idea on the person constitutes his or her belief in the idea. To speculate about transcendent spiritual meanings of an idea apart from its effects is pointless.

What this does is to abandon the old Platonic idea of a foundational philosophy; nothing is ever certain, and the best beliefs are those that enable us to adapt best to our environment (is this a recipe for social Darwinism?). Peirce had been a scientist, and he thought that ideas were useless if they could not be translated into something observablehe is a positivist in some ways. (Some people believe that all pragmatists are disappointed positivists.) He would not go along with William James' allowing the importance of emotional and ethical considerations in deciding whether a belief workedPeirce was too hard-headed. He thought that the propositions of ontological metaphysics are meaningless gibberish or absurd.

Pragmatism stresses results, not method. William James did not trust purely intellectual theorizing. In science, what works is important; in ethics, pragmatism stresses making compromises between desire and reason. There is no comprehensive set of beliefs, only a way of thinking; what is important between two different propositions is the difference in the results. Pragmatism is an approach to intellectual problems; if an idea has no usefulness in solving a

problem or producing a needed result, it is not significant. If the idea is useful, its true. William James said that an idea is true if it does what you want it to do; this is its practical or cash value; it doesn't matter what anyone thinks of the idea; what *difference* does an idea make if it is true? The question for the pragmatist is: What consequences would follow if I act on this idea? If nothing would happen, it does not make any difference whether I believe it or not, and it would not affect how I behave. (Clearly this fits with an anythinggoes approach to business.) A theory is true if it allows us to deal successfully with experience. Here James goes beyond Peirce by using pragmatism not just to clarify meaning, but to determine truth; this caused Peirce to dissociate himself from James' philosophy. For James, truth is shown if my idea about something is verified by objective experience; if I have the idea that San Francisco is north of here, and I drive north and arrive there, then my idea corresponds to objective reality and so is true; truth is a *process* by which I verify a proposition. Truth becomes true, or is *made* true, by events. The critique here is that James makes a mistake; truth and utility are clearly not the same thing; not all beliefs that are profitable are trueit may help me to believe that I am the best psychologist around, but that does not make it true. Bertrand Russell made much of this kind of critique of James, and they debated.

Peirce and James agreed that an idea is meaningless unless it matters to our lives. But James said that we can test the idea with all of our experience, including noncognitive experience such as hopes and fears, feelings, loves, etc., which are important aspect of our realityhe does not confine himself to Peirce's purely cognitive proofs based on physical reality. For the tough minded empiricist, the idea of God or free will is empty and meaningless, since they have no sensory content. But to James, since they can make a difference to how we live, then they are true. Whereas rationalism sticks to logic, and empiricism sticks to the senses, pragmatism considers anything, including ordinary experience or mystical experience, if they have practical consequences. So whereas Peirce was cold and intellectual, James valued the heart, which is equal to the head in the search for truth. This is radical pragmatism; a little antiintellectual!

Pragmatism is a method to cope with experience; it is a pole star. We cannot hope to answer final questions about God, etc., but we can know the main question: Does this idea matter to me and to the culture? James gives up the search for first principles, turns away from fixed truth towards functionwhat the idea does for us. This fits with a psychology of functionhow does the mind adapt to the environment; how do we measure intelligence, cure mental illness, get people into the right job, and so on.

James was reacting to metaphysical speculation about unanswerable questions. Pragmatists opposed the traditional philosophical view that the truth of an idea is independent of human experience; Plato thought that a theory is true whether anyone knows it or not, but pragmatists say that the only reason we have for saying something is true or false is whether it works or not. Absolute truth claims are meaningless. Truth is temporary, not static and unchangeable; an idea may work for a while and then be discarded.

An ethical theory follows from this idea; there are no absolute moral principles.

The universe according to James is pluralistic; there is no fixed world that we uncover through experience; there is a continuous attempt to find solutions; there is a confusion, out of which we differentiate different aspects that we call ourselves, objects, etc., as a way of dealing with problems. There can be no single concept of the universe, just continuous development of our knowledge of the world. This idea is the opposite of the metaphysical schemes of views of the universe that see it one way.

Since consequences are the main arbiter of truth, empiricism is important to James. James was concerned with the implications of evolutionary theory for religion, so he has to get away from absolute idealism and dogmatism and find in the empirical method actual reality, convincingly solid, by which we can livewhich he needed emotionally, also. Evolutionism allows a context for empirical facts to have meaning.

James went on to study the cash value of religious belief. One of his students was G. Stanley Hall, who invited Jung to the USA; Hall institutionalized American psychology; he organized the beginning of the APA in 1892.

William's major books are related to his father's intereststhey had a very close emotional connection. *Varieties of Religious Experience* is designed to do some justice to his father's kind of religious experience. His P*ragmatism* was an attempt to harmonize empirical thinking with religious feelings. In *A Pluralistic Universe* (pp. 309311 and 2831) he accepts the idea that minds or fields of consciousness might overlap and interpenetrate; "we are continuous, at least to our own consciousness, with the wider self from which saving experiences flow." In *Essays in Radical Empiricism*, he wrote that: "In that perceptual part of *my* universe which I call *your* body, your mind and my mind meet and may be called coterminous." (p. 78). In "Final Impressions of a Psychical Researcher," he ends by saying that there is a continuum of cosmic consciousness "against which our individuality builds but accidental fences, and into which our

several minds plunge as into a mothersea or reservoir." Our ordinary consciousness is circumscribed for adaptation, but the fence is weak in places where the Beyond leaks in. He calls this a "panpsychic view of the universe." (see Scharfstein p. 282). In spite of all this, and his *Varieties*, William refused to call himself an outright mystic. However, he could deny the subjectobject split and he was very interested in the problems of the immortality of the soul and the supernatural. Obviously he picked up much of this interest from his father. He was very interested in spiritualism, although he preferred the idea of spiritual processes to entities. When his sister was dying, he wanted to get a local medium to relay messages to her from their dead father and mothersister Alice refused this offer.

Some critics of James accuse him of being weak, too dependent on his father, and see his philosophical ideas arising out of this problem. The two brothers were also close, although there may have been some jealousy between them. Henry liked William's philosophyhe idealized his elder brother although William did not entirely like Henry's later writing style. It has been suggested that Henry was trying to express in his writing what William meant in his philosophy, and the fluxlike nature of experience, on which we impose beginnings and endings.

Why is this relevant to the development of psychology? Because, if a belief is always manifested in behavior, there is no need to worry about consciousness! This kind of pragmatism anticipates behaviorism.

Pragmatism became popular in the USA; but it does not work; we cannot evaluate an idea in terms of whether or not it works; *when* can you tell if an idea has worked? The consequences of an idea go on for ever. Sometimes an idea works, sometimes it does not. But what does "works" mean? Do we mean what works for the person, the society, or for the world? Is morality only reducible to what works? I may feel that something is good and it works, but this may be just my opinionjust because I enjoy it and it works for me does not make it right or true. Should adjustment to society become the main goal of life? Surely this would stop all social progress, inovation and individuation.

The old Scottish common sense school lost to the new experimental school, but American psychology retained the Scottish interest in the mind in action rather than only attending to the contents of the mind. This is still popular; it makes psychology useful.

Early American Women Psychologists

The limitations and prejudices that women suffered in the larger culture also happened to women in psychology. But some made significant contributions. Mary Calkins (18631930) was at Wellesley college for 40 years. She began teaching Greek, but studied psychology at Harvard under James and Münsterberg. However, she could not graduate because at the time Harvard was not coed. She went back to Wellesley and established a laboratory. She was the first woman president of the APA in 1905. Her main work is about the psychology of the self, about the essential unity and coherence of consciousness. She was an important alternative to behaviorism. She tried to reconcile structural and functional psychology, but this was at a time when functionalism was winning and there was no interest in reconciliation. (See Calkins, M. W. 1906: A reconciliation between structural and functional psychology. *Psychological Review*, 13, 6181).

Christine LaddFranklin (18471930) was a mathematician and physicist from Vassar; she studied at Hopkins in 1878 and would have graduated in the early 1880's, but they did not give her a degree until 1926 because she was a woman. She is best known for her theory of color vision.

Margaret Floy Washburn (18711939) was the first woman to receive a PhD in psychology in the USA, with Titchener at Cornell in 1895. Her interest was in the reconciliation of behaviorism and introspection. She was the first woman psychologist to be elected to the National Academy of Sciences in 1932.

Nietzsche

Before we finish the 19th century, we have to consider Nietzsche, who has had a great deal of influence. Ernest Jones (1955, vol. ii, p. 385) wrote that Freud said that Nietzsche "had a more penetrating knowledge of himself than any other man who ever lived." Nietzsche addressed some of the central problems of his time, which included being adrift in a complex society in which God was dead. Nietzsche was a rebel against the conventional beliefs and mores of his time, like Spinoza; he denied free will, teleology, and the Christian idea of evilhe wanted to dissect all the virtues of the time. He wanted to replace Christianity (with his own *Thus Spake Zarathustra* as the new N. T.). He thought that Christianity was a curse and a perversion, because it had denied the Dionysian frenzy of passion and vital forces (as opposed to Apollonian order and restraint), smothering everything with lifedenying ideas and pieties that could not provide us with real morality. We must get beyond Christian ideas of good and evil, since there is no universal morality; people are individuals and can only be judged as such; Christianity is

the morality of paltry people used as the measure of all things; it is the morality of the herd, a slave morality. The Christian promise about heaven and the meek inheriting the earth are just consolations offered to weak people. Christian pity merely squanders life's energy on futile attempts to protect the weak from their natural destiny. The Christian idea of sin colors life with guilt. True morality is for an aristocratic minority; there cannot be a morality for everyone. The Christian ideal of asceticism and denial of sensual pleasures is a rejection of this world in favor of another world, which devalues and negates life. These kind of values produces nihilism, the sense that nothing matters, that values are valueless and there is no truth. We are afraid of life. We should exalt the noble soul that reveres itself; let us worship the free spirit who sees through tradition and prejudice, who bends the world to his will. The new morality is the affirmation of life. The doctrine of the eternal return is a test for these values; if you can wish that everything that has happened in your life, all of it, good and bad, should be repeated in exactly the same way for all eternity, over and over again, then you will have affirmed life. Only the superman can make such a difficult affirmation. (Sometimes he sounds as if he believes that this eternal return actually happens; it is not clear what he meant by the eternal return.)

The *Übermensch* or superman desires through his will to power, which is just the will to live in a higher, more powerful state of being. This superman can only be judged differently than ordinary mortals. By reevaluating all morality, the "noble man" would emerge, who would be a man of strength, hardness and cruelty when necessary. The future lies with great men (such as Nietzsche himself, of course), not the masses as Marx said; the masses are only the foundation for great men. The superman is the goal of life. Women and universal suffrage belong to the inferior world; only the feelings and intuitions of mighty men are importantthis is the morality of the masters who know that life is will to power. We need not faith but the will to power; life is continuous struggle, unending change, a perpetual comingtobe that never ends or rests; it is just the play of forces. Religion and metaphysics arise from psychological weakness, from a refusal to deal with the world by means of the will. People with moral ideas like Kant, J.S. Mill, and Rousseau, were blockheads, fanatics. Faith in moral "facts" confuses facts and valuesthe world is amoral, and we should not project moral meaning and our prejudices onto it. Nietzsche hated philosophers who divide the world into a true and an apparent world, like Plato, or Kant, or Schopenhauer's will and representation of the will. These ideas repeat Christianity's negation of this world in favor of a better one. (It looks as if he substitutes his own ideas of original sin for the Christian idea!)

For Nietzsche, truth, like morality, is relative, and a matter of perspective; there are no facts, only interpretations. All knowledge is perspectivalto know something is to have a view on it, to

grasp it from a particular perspective (note; if knowledge is just knowledge of appearances, he is a Kantian; perspectives are perspectives on something). Language falsifies our experience of reality, because language makes it easy to sustain the illusion that there are entities behind our words, such as "I" or the "thing." In fact, the world only seems to be fixed and stableit is actually in constant flux. We impose stability and unity on it. Consequently, Nietzsche opposed all philosophical system-building as false. But his will to power is a metaphysical theory of the world, somewhat like Schopenhauer's will, since behind the apparent world of causality and unity there is the will to power that is the true world. Another irritating thing about Nietzsche is his insistence that his way of seeing things is right, while at the same time he argues for the relativity of knowledge.

We need a transvaluation of values, meaning giving the old ideas new significance, new interpretations. A negative criticism applied to you can be turned around into a virtue; for example, if someone accuses you of being too sensitive, you make being sensitive enormously important and a great virtue. You make what was intended to be a criticism into something goodthis is a transvaluation of values.

Biography

Nietzsche was born in 1844. His mother was the daughter of a pastor; adaptable, obedient, modest and pious, devoted but also temperamental. His father was a country parson, a very sensitive musician, who could not tolerate any quarreling in the house or churchit would make him retreat, not talk, eat or drink. Young Fritz (as he was called) was close to his father, who died when he was only 4, which proved to be a catastrophe for him. He was left in a household of himself and 5 womenmother, sister, grandmother, and two auntssome people think this was stifling (Hollingdale, 1973, *Nietzsche*.) He had a dream just after his father's death in which his father rises from the grave and takes a little child back into the grave with him; the next day brother Joseph suddenly became ill and quickly died. At 11, his grandmother and a kindly aunt died.

As a child, Fritz was pious and a reflective, lover of solitude. He was polite, and fond of reciting Bible passageshe says that as a child he found God his only consolation and protection. Other children called him the "little pastor." He loved musicespecially Wagner, with whom he was later friends for a periodand was a good pianist, which seems to have maintained a tie to his father. In *From My Life*, he says that his character had been shaped by the loss of his father (see Gedo, Nietzsche and the Psychology of Genius, *American Imago*, xxxv, 12, pp. 7791). His

denial of God's existence may have to do with the death of his father. The exaggeration of masculinity in Nietzsche's writing could have to do with the need to compensate for the loss of his father. He needs a godlike superman, and he also has to find a way of dealing with his selfesteem problem.

Nietzsche's health gradually deteriorated. It is usually thought that he had syphilis, but this is not certain; the evidence is mostly hearsay. He may have also taken too many painkillers for chronic pain and headaches.

In *Beyond Good and Evil* (1886) Nietzsche says that every great philosophy is the confession of its author, and an involuntary memoirlater Jung is to say that every psychological theory is a subjective confession.

Freud thought that Nietzsche's insights agree with psychoanalysis, in that he understood the role of passion in the psyche of supposedly civilized people, and also the psychological role of religion.

History 5

Lecture Notes of Dr. Lionel Corbett: Private Circulation Only

Dewey, M¸nsterberg, Thorndike, Pavlov, Watson, Tolman, Hull, Eugenics, Wittgenstein, Ryle, Skinner, Chomsky, Existentialism, Humanistic Psychology, Cognitive Science and Artificial Intelligence, Structuralism and Post-Structuralism

The rise of behaviorism in the USA

Wundt and James had been interested in mental life[81], and Freud tried to understand his patients' inner life; but around the turn of the 20th century, psychology increasingly lost interest in subjective experience, and in the problem of consciousness. Instead, the focus became the analysis of external behavior--people as things. How did this disaster happen?

Before the APA was founded in 1892, psychology was carried out by philosophers, physicians and physiologists. There was no separate field of psychology--it had to be created. Before the civil war (1861-65) there was skepticism that education was particularly useful in indicating ability; there was even a time (1830) when some states abolished licenses for doctors. But

[81]This interest is sometimes called mentalism.

towards the end of the century, professionals increasingly organized themselves, and began to make government pass laws to recognize their authority. The years between 1880 and WW 1 brought major changes; prior to 1880, America consisted of isolated, small communities stretched across the continent--only 25 % of people lived in cities. But, by 1920, technology had begun in earnest, urbanization dramatically increased to 40% of people in cities, there was great deal of immigration and people were changing from farming to urban/industrial occupations. The USA became a nation state. This change dramatically affected peoplesí lives. Experience became homogenized, transportation and communication dramatically increased. Psychologists wanted to be part of reform, change, progress, efficiency, and all that went with these. Psychology had to become applied to stay relevant.

At the end of the 19th century the old philosophical psychology was dying and the new experimental form of the discipline began to take hold; measurement was the key; what was needed was naturalistic, pragmatic science, not religion and philosophy. Vigorous defenders of the old way were still around, people who thought that the natural science version of psychology was absurd because science could not deal with the really important aspects of human psychology, such as religion (eg, George Ladd[82]). But the old psychology was doomed; only the fundamentalists clung to the old Scottish common sense psychology that defended religion against the tide of modernism. The new psychology was self-confident and scientific, ready to deal with urbanization and industrialization.

In the mid-1890's there was a serious depression with unemployment and major social disruption that stimulated the need for reform and progress; the movement that emerged was called progressivism. This was a middle class movement of professionals who wanted to tame the American aristocracy, the Robber Barons who were making fortunes in business and trying to control politics while they lived opulent and empty lives, as portrayed in *The Great Gatsby.* Progressives saw the mass of urban, working class immigrants as victims exploited by corrupt politics. Votes were routinely bought, and politicians were self-serving, so the Progressives wanted to establish disinterested and professional government trained in management, and get rid of political corruption. The main philosopher of Progressivism was John Dewey, president of the APA in 1899, who wanted to connect psychology and modernity, beginning with educational psychology and educational reform and including the Americanization of immigrants. By now,

[82]Ladd was a professor of psychology at Yale where he introduced the first study of experimental psychology in the United States. Although devoted to scientific psychology, and author of the first English language text book of Physiological Psychology, he nonetheless viewed the role of psychology as ancillary to philosophy. He was a funtionalist who thought of the human being as an organism with a mind purposefully solving problems and adapting itself to its environment.

schooling had become mandatory, and Dewey thought that the mind is an instrument of adaptation that can be improved by education. For psychology to meet the test of pragmatism it had to be involved in education.

John Dewey

The very influential American philosophical psychologist John Dewey was an early functional psychologist. He developed instrumentalism out of pragmatism; the instrumentalist theory of knowledge says that thoughts are instrumental in working out problems, and ideas are tools or instruments in the solution of problems encountered in the environment. An idea is an instrument that transforms our uneasiness when we have a problem into the satisfaction of some resolution or clarification of the problem. Thinking is really the process of adjustment between people and the environment. Thought and learning are a process of inquiry that result from doubt or uncertainty; they are spurred by our need to resolve practical difficulties or to relieve strain and tension. This is a theory of knowledge based on the role that the process of knowing plays in our lives; Dewey tried to use this idea as a guide to direct the application of thinking to contemporary social problems. According to Dewey, we interact with our environment and we have to act; our experience is not something we know, but the actions that we perform. In the course of our activity, we encounter situations in which we can no longer act, and when we cannot act, thinking arises as a way of dealing with this disturbing situation. We then develop guides to future action, which are judged according to whether they work or not; thought helps us to discover functional solutions to our problems. Truth is relative; we work it out by means of experiences throughout life. If we separate theory from practical concerns and search for absolute solutions to philosophical questions, we get away from the human needs that give rise to thought, or we superimpose preconceived schemes on thought. For Dewey, truth is at best something that we have some warranted reason to assert, until a new fact comes along to make it not true. He rejects absolutes--no Truth, only truth. Dewey wanted to reconstruct philosophy in terms of practical problems, so it could be useful in helping us cope with the environment and building a better world. Education has to teach problem solving, so the student can fit better into the environment. Dewey thought that schools have to teach values of social growth, community solidarity, and pragmatism. Psychologists have to be involved in progressive social reform.

Progressivism was a modern American version of the Enlightenment. It tried to replace tradition with a new scientific approach to the world, guided by the new educated professionals. Psychology had a role in the reconstruction of society. If custom, habit and tradition reign, there is no need of psychology; but when we become conscious of our values we need psychology,

since psychology is the social analog to consciousness. James had said that consciousness arises when new adaptation is needed; society needed new adaptation and changes, and Dewey thought that psychology would arise to meet the needs. He believed that psychology offers an alternative to an arbitrary, class-based view of society that denies some people their full potential for development (hear the similarity to the *philosophes* of the French Enlightenment.) We have to apply reason to social institutions. If we understand the psychological laws that make people behave the way they do, we can construct a better society by using rational planning. Science will solve social problems, and psychology must be there. This philosophy of Progressivism was very American; it mistrusted aristocracy and politicians, and was committed to equal treatment for all. The key words were growth, betterment and progress. Dewey thought that people acquire their personality from society; there are no individuals who precede society. We need social planning to bring about individual fulfillment, which would happen when a person is in harmony with other people in the community; ideally your will is the unified will of the community. There is no room here for individual freedom; scientific management of society leaves no room for it. The legacy of progressivism is government bureaucracy and social control--rule by the expert, anonymity, people as numbers. As well, as a result of these attitudes psychologists moved into all areas of society, education, business, government.

Behaviorism is a logical outcome of this way of thinking; behaviorism allows social control. Dewey laid the groundwork for this potentially dangerous idea, which permeated the entire 20th century American culture. Dewey thought that all behavior dynamically interacts with other behavior happening at the same time; stimulus and response are not disconnected because the current behavior gives a stimulus its significance. The sound of a twig snapping means something different to a walker in the woods and a soldier on guard duty. That is, a stimulus has to connect with our current behavior for it to be meaningful. When behavior needs to be coordinated with reality, then emotion arises; the walker does not need to adjust to the sound of the snap, but the soldier does; the soldier feels fear because he cannot act; emotion arises from the conflict between the needs to fight and flee. If he could do either immediately, there would be no emotion. Thus, to account for behavior, we can do away with the Self of idealism; rather than assign the control of decisions to Kant's Transcendental Ego, we can account for motivation in terms of adaptive behavior--hearing, seeing, etc., are all coordinated so as to survive in an environment. Now develops the idea that there is no self in nature; the idea of a self is a social construction.

What also helped to get rid of the self was Hugo M¸nsterberg's getting rid of the will. He was James's successor at Harvard, a student of Wundt but not a total follower of Wundt. There has

always been a problem of reconciling the idea of free will with scientific determinism; James is said to have left psychology because he could not reconcile the two ideas. How can there be such a thing as will in a brain that works by means of reflexes, which was the current theory of brain activity? If the brain produces behavior by associating incoming stimuli with outgoing nervous responses, there is no need for an intervening consciousness. If behavior is reflex, consciousness is irrelevant for the preservation of the individual. So why do we have ideas, and why do we think we have will?

M¸nsterberg developed an "action (or motor) theory" of consciousness; he looked for a psychological basis for will, but just as Hume had found no self, so M¸nsterberg found no such thing as will. M¸nsterberg says that we *feel* as if we have will, because we are aware that we are behaving, or we intend to behave in a certain way. I feel as if I am intending to move my arm because the muscle movements have just begun and I have just realized that the arm is moving; I do not move my arm because I decide to; there is no will involved. I feel that I have will because the incipient tendencies to act are followed by action, the tendency to act triggers memories of real actions. Because there are covert tendencies to move that usually precede overt movement, I feel as if I am willing the arm to move. Our ideas are the product of our readiness to act--actions rather than will shape knowledge. Stimuli impinge on us, then we react with behavior, and our muscles and hormones etc. produce the link of stimulus to response. Motor behavior reports to the brain, which causes movement, and bodily movements give rise to conscious contents.

This motor theory of behavior means that consciousness is just an epiphenomenon that plays no role in causing behavior; consciousness is just an observer of the world and of the actions of the body, falsely believing that it is doing things; actually just the brain acting. There is only physiology; now psychology can get scientific and focus on behavior.

Finally, Dewey has got rid of the self[83] and M¸nsterberg has gotten rid of the will. The motor theory of consciousness further depreciated consciousness and introspection. What was left for consciousness to do? Nothing much. So why bother with it? Enter behaviorism. By this time, William James had already changed the focus of the field from content to process; mental contents for him were evanescent, changing; what is enduring are processes like choosing. This way of thinking fit with America at the turn of the century; the country was changing rapidly,

[83]Dewey and the sociologists Charles Cooley and George H. Mead linked psychology to sociology with their theories of the self. For them, the mind or the self is not part of our innate human equipment, but arises in experience; the self is constructed out of relationships with others. We develop a self or self-concept by internalizing social and interpersonal experiences, and based on how others perceive us. This sounds very much like Kohut, which is why he was accused of being a social psychologist.

new vistas arose, and what remained was the process of adjusting to the new situation. What was needed for the growing country was something pragmatically useful; a focus on content is not as useful as a focus on adaptive processes.

The old psychology was a structural psychology (Titchener) that studied the components of consciousness--the anatomy of mind--sensations, images, feelings; then functional psychology tells us what the structures that we have found actually do--memory, judgment, imagination. The study of how these functions develop is a type of genetic psychology--the attempt to understand origins. In the debate between the structuralists and functionalists, functionalism won out; they adapted James' concept of consciousness and moved it towards behaviorism. Consciousness is just action. It is not very important; we only need it when faced with a novel situation. Otherwise, instinct or just habit make consciousness unnecessary. So why not just get rid of mind altogether; there is no need to postulate (as James had done) that consciousness actively intervenes in our activity; just speak of behavior.

The leading early functionalist was James Angell, a student of Dewey. He said that the situation in psychology is not like the body; in the body the structure (eg a liver) has a function, but the mental elements of the structuralists were not permanent psychological organs--they only exist at the moment that we perceive them--actually, the functions produce the structures! Anyway, to study consciousness, or a structure removed from life conditions is pointless and irrelevant. The only important aspect of consciousness is as an organ that helps adaptation to the environment (Darwin is king).

The emphasis of psychologists became behavior; it was assumed that observable and measurable behavior has meaning in its own right, and is not just a manifestation of an underlying mental event. The historical lineage of this thinking goes back at least to early Ionian attempts to explain activity as the result of physical causes; then the French sensationalist tradition that rejects Descartes' thinking substance in favor of a mechanical system responding to stimuli; then the sensory reductionism of Condillac and the mechanical physiology of La Mettrie. All these say that mental events are determined by sensory imput and sensory processes. Locke's idea of mental passivity means that the mind is dependent on the environment for its content; empiricism and associationism are central to behaviorism, so the British must take part of the blame.

The core idea of behaviorism is that an organism learns to adapt its behavior to the environment, and this learning is governed by the principles of association. A very powerful support to this idea comes from research into animal behavior. In those days, it was supposed that we could

learn about the origin and development of human faculties by studying animals[84].

Edward Thorndike (1874-1949

Thorndike studied with James at Harvard and eventually worked at Columbia. He formulated a type of stimulus-response psychology called connectionism. He put animals in puzzle boxes that could be opened in different ways; if the animal solves the problem of how to open the box and escapes, it is rewarded by being fed. *(Animal Intelligence*, 1911). This response-reward process is later to be called instrumental conditioning. The food reinforcement is only given if the animals responds. If a response is not rewarded, it fades. Thorndike said that animals learn by trial and error, reward and punishment. They have no ideas, only the association of situation and impulse. (Later, the Gestalt psychologist Kˆhler realized that animals only *seem* to not reason in the laboratory, because the situation does not allow them to reason; they are forced into trial and error by the construction of the box. There is no way to reason out of it. *The method gives the result*.)

Thorndike generalized from animals to humans. He believed that, in line with Progressive attempts at social control, that the purpose of psychology is the control of behavior. He developed laws of behavior: eg, of several responses to the same situation, those that are followed by satisfaction will be more likely to recur; punishment reduces the strength of the connection, and the greater the strength of the reward or punishment the greater the change in connection. This became the law of effect, the basic law of instrumental conditioning. Later, Thorndike gave up the punishment part of this equation and retained the reward part--he realized that punishment just makes the organism move to another response. His second law is that a response is more likely to be produced in proportion to the number of times it has been connected to the situation, and to the average strength and duration of the connection. He thought that these laws could account for all behavior, no matter how complex. Language is just a set of vocal responses learned because parents reward some sounds and not others. But he

[84]Another precursor to modern behaviorism is the 19th. century Russian animal physiology of Sechenov, who influenced Pavlov. Sechenov wanted a totally positivistic, physiological psychology; he thought that introspective psychology was a form of primitive superstition. For animal behaviorists like Sechenov, the cause of behavior is not the brain or the mind, but external sensory stimulation. Behavior is a response to stimulation; ideas are produced by the association of reflexes mediated by the CNS. His work was censored by the imperial Russian government of his time, because it was too materialistic; he did not live to see the dialectical materialism of Lenin, which would have valued him. Vladimir Bekhterev was a student and popularizer of Sechenov who applied Sechenov's ideas of reflexology to the treatment of mental illness in St. Petersburg. He had studied with Wundt, and was a contemporary of Pavlov.

could not account for how reinforcement worked; how does the animal realize that the reinforcer was satisfying or not? There must be a judgment or mediation of the effects of responses. Do we need to postulate consciousness intervening? Are there centers in the brain that mediate satisfaction or annoyance?

Another big problem for the behaviorists was how to account for human behavior without referring to its meaning; we could learn to respond to a foreign word without knowing what it means. Meaning is crucial to people, so what applies to animals may not be generalizable to humans; we can train animals to respond, but what do the stimuli mean to them?

Ivan Pavlov (1849-1936)

Pavlov was a physiologist who won the Nobel prize for his work on digestion in dogs, in 1904. During this work, he noticed that dogs would salivate as food was being brought to them; he paired the food with a tone and discovered that the dog would salivate in response to the tone itself, without food. This process is called classical conditioning. Food is an unconditioned stimulus (US) to salivation; he termed the neutral stimulus such as the tone, conditional--later the conditioned--stimulus (CS), because its ability to produce salivation was conditional on a specific set of circumstances. Salivation is an unconditional response that is elicited by the US; the conditional response is the salivation elicited by the CS after association with the US. When a CS produces a CR we have a conditioned reflex.

Pavlov sounds like martinet; stern, scholarly, disciplined, with rigid expectations of his students, and highly systematic methods. His laboratory (built for him by Stalin) was called the "tower of silence." He was uncompromisingly materialistic and a believer in objectivity. He rejected the idea of a mind or soul as an active inner agency, and thought everything that we do is a reaction to the environment. There is no "fantastic inner world." There is no need for mentalism; the CNS provides the reflex connection between the environment and the response.

But, the animal psychologists who compared animal and human behavior --looking for analogues--still had Descartes' problem; if there are mental processes in animals, then what exactly is something "mental"? That is, which processes are purely mechanical and which are due to the *res cogitans*? Descartes had the answer of his times; the soul, rather than the body, thinks; language is the expression of thought, and so language is the mark of the mental. But the animal psychologists had no soul to fall back on; where do you draw the line between a primate

who has a mind, and an amoeba? Various solutions were proposed[85] , but enter John Watson, who thought the whole question of the search for the mental and deciding the criteria for what is mental was unnecessary. In 1908, he argued that we could study animal behavior objectively, and arguments about consciousness are useless. There is no need to ground behavior in anything psychic. In 1913, Watson called for a purely behavioral psychology, and changed the direction of 20th century psychology, which became the study of behavior, measured in terms of the causal relationship between stimulus and response (S and R). Watson did not deny the existence of consciousness, but thought it could not be studied scientifically, and so it is just not a problem for psychology. He relied on the principle of association as the key to the growth of behavior; all behavior is the result of complexes or sequences or associations of S-R bonds--the brain is a relay station. There is no dividing line between "man and brute" (to quote his 1913 paper, Psychology as the behaviorist views it, in *Psychological Review, 20*, 158-77, which is the origin myth of the field.) Watson radically attacked introspection--it's not reproducible or reliable, it's too personal, and he thought that discussions of consciousness were sterile and irrelevant.

Watson did not believe that there was such a thing as thinking as we usually think of it, since thinking does not involve the brain at all. When we think, faint contractions of the larynx are picked up by the brain and responded to, but these movements are not initiated by the brain; thinking is "implicit behavior," that may occur between a stimulus and a response, which is the explicit behavior. The implicit behavior is actually carried out in the larynx, which produces implicit speech (this is clearly and obviously not true, or people who loose their larynx would not be able to think!). This is another version of the motor theory of consciousness, which is also called peripheralism. Images in the "mind" have no functional significance, so there is no point in studying them--we do so out of accumulated habit. There are no functionally important mental processes that play causal roles in determining behavior; there are simply chains of behavior, more or less easy to observe. What we call mind is really behavior. Watson believed that allegiance to mentalism is actually allegiance to religion in a scientific age where religion is obsolete--this is his real revolt against the past. If you believe in centrally initiated behavior by the brain, you really believe in the soul. Watson believed that behaviorism would replace religion, as it would psychoanalysis, which was just a form of demonology.

Biography

[85]In particular, in 1905, Robert Yerkes, an animal psychologist, suggested criteria that indicate the presence of mind. He proposed grades of consciousness, ranging from simple discrimination between stimuli, to the capacity to learn, which indicates intelligence, leading to rational consciousness that initiates behavior rather than simply responding to stimuli.

Watson provides a clear example of the relationship between a theoristís ideas and his psychological make up[86]. He grew up on a farm, the son of a violent father with a bad reputation and a devout, upright, long suffering Baptist mother. His father abandoned the family when Watson was 13, and his mother moved to the city. As a child he was lazy, violent and rebellious, with racist behavior towards black people. He did poorly in school, and was teased a good deal by classmates for his rural ways. He was good looking ,charming when he needed to be so, and intensely self-promoting. He managed to get into a local Baptist college where he did well academically. As a result of hard work and brilliance, he did well as a graduate student at the University of Chicago, eventually rising to be the chairman of psychology at Hopkins in 1908, from which he was expelled because of a sexual scandal. He developed a second career as a psychological advisor in an advertising agency--he had always been a good salesman--and writing articles in popular magazines. He was always self-assured, very sure of himself, and had multiple affairs all his life. In social situations, he was flamboyant and charming, but unable to engage with any emotional depth, unable to express feelings even to his children, whom he was unable to kiss--he shook hands with them at bedtime. Behind his narcissistic persona, the result of his abusive childhood, he was insecure and emotionally inert. He was more comfortable with animals than with people. Even after an episode of depression and anxiety he remained totally --and defensively--uninterested in introspection or self-examination, and only dealt with external behavior.

We see Watsonís defenses against the inner life, or the importance of human endowments, in his strongly held attitude to child psychology. He believed in no inherited capacity, talents, temperaments or characteristics. He even denied that hand preference is innate--it's all due to training. He said he could take a child at random and train him (using rigid behavioral techniques) to become anything you want--babies are plastic waiting to be molded by society (this thinking is enormously damaging to children). In 1920, he did an experiment to show that babies are born with only a few instincts such as fear, rage and sexual responses; all other emotions are conditioned. He took an infant known as Albert, and paired a loud noise that scared the baby with a stuffed toy that the baby liked to pet. After several pairings of the noise whenever the child touched the toy, the child became afraid of the toy alone. Watson said this is the prototype of how we learn emotions--they are conditioned. (I don't know what happened to

[86]See his biography in Muchison, ed. 1961. *A History of Psychology in Autobiography*. Worcester, Clark Univ. Press. Also see Hannush, M.J., 1987. ìJohn B. Watson Remembered: An Interview with James B. Watson.î *J. Hist. Behav. Sciences, 23*, 137-151; Robert Watson, 1978, *The Great Psychologists*,. Lippincott, Philadelphia, and Fancher, R. 1979, *Pioneers of Psychology*, Norton, NY.

Albert, but he must have been traumatized; no attempt was made to decondition his fear.) Watson was called a "slot machine" theorist; you put the stimulus in and out comes a predefined reflex response.

Watson's ideas seemed to allow the long sought-for objectivity, prediction and control of behavior in the positivist tradition. But his 1913 manifesto was not universally acclaimed; some people did not like his denial of the value of introspection, and he was a little too strident. Mary Calkins tried to mediate between behaviorism and mentalism. Some critics said Watson was a biologist not a psychologist, since to deny awareness is to throw out the baby with the bath water. Watson became APA president in 1916. In his presidential address he turned to Pavlovian psychology as the method or tool of investigation for behaviorism (it had been continued by Karl Lashley, Watson's student, who was to become the main neuropsychologist of the time). The conditioned reflex was the basis of the method. After Watson's 1913 address, the development of behaviorism was interrupted by WW1, which gave a boost to objective psychology since its value, such as the testing of soldiers, had been proven.

By 1930 behaviorism was the dominant school in the USA. Behaviorism ignores mental events and even the central mediation of S-R bonds. It reduces psychology to physiology and physics--back to La Mettrie and the French sensationalists. There was much discussion about different types of behaviorism. Methodological behaviorism says that there is such a thing as consciousness but it cannot be treated scientifically, while strict or radical behaviorism denied that consciousness is anything unique at all--a physiological account of behavior also accounts for what we call consciousness. Psychology, said Lashley, has to escape from metaphysics by turning to physiology--this was an attitude of positivistic scientific imperialism, trying to establish a value-free technology. In the next years, there was much argument about how people compare with robots; are we just machines? Are we mechanical, or do we have purposes, values, and spiritual lives?

T he golden age of behaviorism was between 1930-1950. At that time, the main interest in the field was learning, which was thought to be the way in which we adapt to the environment. There was little interest in perception or thinking. Psychologists adopted logical positivism (also called logical empiricism) as their guiding philosophy. This began in the 1920ís in a group called the Vienna circle. They held that the only real, factual knowledge that we can have about the world is scientific knowledge that can be publically experimentally verified through empirical methods; personal experience does not qualify. Traditional metaphysical ideas are not false but meaningless; questions about God, free will and the soul are simply unanswerable

because they are not real questions--there is no way to verify or refute them.

Comte's positivism had said that we can only know what we observe. But eventually it became clear that physicists need ideas about atoms and electrons, even though they could not see the things themselves. So positivism had to change; there was still the desire to get rid of metaphysics, and to do so the new logical positivism wedded empiricism and formal logic. It says that philosophy does not produce propositions that are true or false, it merely clarifies the meaning of statements, showing only that some are scientific and some are not. Science deals with observational terms like color and measurement, and statements of physical laws. A meaningful theory can be linked to the way we observe a phenomenon; what we call mass is the way we weigh things. If you cannot define something in this way, it has no sense. To say that force = mass x acceleration makes sense because we can check this statement observationally; each term has an operational definition. If we do the experiment and the result fits the prediction, the statement has sense. The meaning of a proposition is identical to the way we verify or falsify the statement--you cannot say anything about the world unless you can test your statement. Some statements are mathematically true[87], but some are nonsensical, or just poetic or pictorial, but not cognitive. Theology falls into this latter category; to say there is a God is neither true nor false--it has no sense to it, since it *cannot* be verified or tested, even in principle (see A. J. Ayer, *Language, Truth and Logic*). How could you verify that there is a heaven? This idea is not cognitively significant.

Logical postivism is clearly too dismissive of major questions like the existence of God; the choice between meaningful and meaningless is too crude for these big questions. If I say that the "grith wint ty bindow," or "purple poisons sleep on Wednesday," or "some short people are very tall," these are nonsense statements, but to say that the statement that "I believe in God" is nonsense in the same way is ridiculous. A statement that is not verifiable may still be important and useful in other ways. Bertrand Russell pointed out that if the positivists are right there is no end to the verification process, since we would have to verify the method that we use to verify the proposition, then verify the method that we use to verify that, and so on endlessly. There is no ground for insisting on verification.

[87] A mathematical statement cannot be verified experimentally, but is known by reasoning alone; the positivists could not write off mathematics as meaningless, however, so they decided that mathematical statements are true analytically, that is, by virtue of the conventional meaning of mathematical symbols. For the positivists, we also have to exempt ethical statements from the principle of verification, since we cannot dismiss value judgments as nonesense. They got round this one by saying that a statement about correct behavior is not really about the world, but an expression of feelings about behavior; this is called emotivism. Value judgments are neither true nor false.

But logical positivism appealed to some psychologists; it seemed to be able to turn psychology into a real science; we can operationalize our terms, state a theory with axioms that make predictions, experiment to check them, link theory and observation, and revise the theory as necessary. This seemed to be the science of science; operationalism was the answer. So, what on earth is Freudís id? If you cannot operationally define and verify it, it is cognitively meaningless; this became the accepted dogma in psychology. We cannot have mental entities; only behavior can be observed. Logical positivism initially provided a philosophical justification for behaviorism, and many people committed their work to operationalism, using this to define what they could or could not study. But gradually this view of science came under question, especially in the 1950's, as it became clear that it was a mistaken approach to science, thanks to Kuhn and Toulmin, who showed that the view of science as objective is a myth. Science is not a logical system of axioms and verifications; it is a fallible human enterprise--there are many social, historical, and personal aspects to it. There is no logical, straight path that begins with observation and ends at a scientific idea. The logical positivist attitude lasted until the 1960's, when it died out--it came to be called "the received view," as if it were a theology.

Edward Tolman

The trouble the behaviorists had was that they just could not account for mental phenomena without invoking a mind. They kept trying to get rid of mind, consciousness, and purpose, by reducing them to the CNS. But, this could only be done in ways that tried to get rid of the *evidence* for mind, such as introspective awareness of consciousness--we are aware that we are aware--and purposeful behavior. One way to get rid of mind is the theory of neorealism, which says that there is no such thing as introspection, since there are no mental objects to observe. This idea was developed by Tolman, at UC Berkeley, who was also influenced by logical positivism. He felt that introspection is really an artificially close scrutiny of an object in the environment, which we report in detail. The introspection of emotional states is the back action (the kick back effect, according to Tolman) of behavior on awareness. Here consciousness exists but it is not a part of science.

Neorealism handles intelligent purpose in human behavior by identifying "purpose" with persistence towards a goal; purpose is just what we observe; we cannot infer purpose from observed behavior. Memory too is just an empirical aspect of behavior; to say I remember xyz merely means that xyz is causing my current behavior. Tolman thereby gets rid of mind and consciousness, like Watson, but retains purpose and cognition, not as the powers of a mind that we can infer from behavior, but as objective, observable aspects of behavior itself. Behavior is a

muscular response caused by a stimulus that triggers it; the way to predict and control behavior is break the molar level down to the smallest molecular components that can be understood physiologically.

At the same time as Tolman treated purpose and cognition from a neorealist point of view, Tolman also used a copy theory of cognition, in which mind is separate from observed behavior. He believed that thoughts were internal presentations to the organism of stimuli that are not present at the moment; this is a mentalistic (copy theory) approach that says that representations guide behavior. To say that thoughts play a causal role in behavior actually breaks with neorealism and behaviorism, since we then have to infer the presence of ideas, and we allow that something mental is a cause of behavior. However, in 1934 Tolman went to visit Carnap, one of the leaders of the Vienna logical positivists[88]. After this visit, Tolman reformulated behaviorism in terms of logical positivism, which gave him a philosophical justification for his ideas. He gave up on mental variables and decided that behavior is a dependent variable caused by environmental and internal stimuli; behavior is connected to independent variables such as training, and to internal ones such as hunger. This was called "operational behaviorism" because it defines its intervening variables operationally as demanded by logical positivism, and it says that behavior is an activity whereby the organism operates on its environment. Eventually, Tolman got rid of operationalism and replaced it with psychological realism, which says that theoretical terms such as purpose and cognition are real mental states and not just useful fictions. By 1948, Tolman described the mind as a central control room in which incoming impulses are worked out and elaborated into a cognitive map of the environment, which are like mental images.

Clark Hull

Clark Hull (Yale) was fascinated by machines, and wanted to make a learning, thinking machine--he had the fantasy of making industrial robots that would think and be useful. He did not believe that thinking was only a function of living protoplasm, any more than is movement. Again he is someone possessed by the idea of quantification in psychology, with a bad case of physics envy. Gradually Hull too came under the influence of logical positivism. In his

[88]For Carnap, traditional folk psychology is mentalistic, and its terms, such as "tooth ache," should not be understood as referring to mental objects but to physico-chemical processes in the body. Since we don't know (in 1934) how pain occurs, we define pain operationally in terms of pain behavior, such as moaning and holding the cheek. Eventually, said Carnap, behavioral definitions will be eliminated by the advance of brain research, and psychology will translate mentalistic language into purely physiological, rather than behavioral, terms. (For Carnap, the expressive function of language lies outside science; it is the subject of poetry and art.)

presidential address to the APA in 1936, he tackled the perpetual behaviorists' problem of accounting for the mind, and tried to account for purposiveness and striving for goals in a different way than had Tolman. Hull thought they are the outcome of mechanistic, lawful principles that are the laws of behavior. These laws can be tested against observations, so they are scientific, not the nebulous claims of philosophy. The laws of behavior are an attempt to quantify all the influences on adaptive behavior.

He said that we can dispense with consciousness, because there is no theorem whose deduction would be facilitated by including the postulate of consciousness--it is just not necessary to understand behavior. To study consciousness is a hangover from medieval theology, which we have to throw off. He demonstrated one of his learning machines in his lecture, apparently with great effect on his audience, showing them that adaptive behavior can be reached with inorganic materials.

After Hull adopted logical positivism, he tried to develop a quantitative theory of learning. The organism has a motivational state, and wants to reduce the drive that this state produces, seeking equilibrium (perhaps he had read Freud secretly). He included what he called intervening variables, which are central factors in the organism that cannot be observed--this is an extension of the ordinary Watsonian S-R to S-organism-R. One intervening variable is habit strength, another is reinforcement, all of which he tried to quantify and express mathematically. One difference between Hull and Tolmin is that Tolmin thought that cognition and purpose were real, while Hull thought they are just the result of mindless mechanical processes that he could express mathematically. They argued for about 20 years, but both of them used rats and assumed that people are just big rats.

To recap; at the turn of the 20th century, American psychology was taken with pragmatism and cash value; psychology had to make a difference, help people to adapt to society. The child, the family, the soldier, the worker, all had to adapt, and psychology marched in ready to help. Child guidance clinics appeared in 1909, at first attached to a juvenile court in Chicago. Testing was popularized with the Binet test. The Mental Hygiene Movement had started with Clifford Beers (*A Mind that Found Itself*, his account of his mental illness, 1908); they tried to prevent psychological problems before they developed using child guidance. The psychology of advertising began, and tests were used by 1915 to choose workers for jobs. When WW 1 came, psychologists were applying their ideas and tests to all kinds of social issues. They evaluated men for the army using tests. One of the main organizers of psychology for the use of the Army was Robert Yerkes, an experimental psychologist. In his presidential address to the APA in

1918, he said that psychologists must use their training to help the war effort. He organized the testing of recruits to eliminate the mentally unfit. Another Army psychologist was Walter Scott, who had a committee on motivation; he was an industrial psychologist who was mainly interested in personnel management. Scott developed a rating scale for selecting officers that was very useful. Yerkes advanced intelligence testing; the Army Alpha was for men who could read, and the Beta was for illiterate men. He gave them a letter grade from A to E. The Army used general testing of all recruits, although Army officers did not like testing and thought Yerkes was meddling. A huge percentage of army recruits were initially thought to be feeble-minded because their test results had been compared with a reference norm of a few hundred California schoolchildren, until it was realized that this was not a logical comparison group.

Army testing really brought applied psychological testing to the forefront. It became widespread in industry, schools, clinics, and law. But, one big problem that emerged from all the testing mania was the racial differences that appeared. Children of later arriving immigrants such as Turks, Russians, Italians and Poles did worse than the children of older immigrant stock, such as the English, Scots, Irish and Germans. African Americans also did badly. This frightened people who agreed with Galton that intelligence is innate, because then it could not be affected by education. African Americans living in the North did better than those living in the South; this was interpreted by Yerkes to mean that the more intelligent Blacks had moved North; he ignored the simple fact that the northerners were more likely to have been to school and so could handle the tests better. The Galtonians wanted political action to prevent immigration, and believed that Blacks were genetically less intelligent. They believed that there was a danger that America would commit "race suicide." They wanted to stop certain people having children and restrict immigration. Many psychologists took part in this racist movement. One main figure was Madison Grant, who divided the races of the world into types, of which of course the Nordic Protestants were the most intelligent. Yerkes was in favor of this racist approach to immigration in order to prevent ìrace deteriorationî in the USA. Eventually, Congress actually passed a law limiting the immigration of non-Nordics. This was all based on blind prejudice and racism disguised as science.

The Galtonians also proposed eugenic policies for people with problematic genes. This idea began after the civil war in the US, and gathered speed in 1904 with Charles Davenport, who developed a eugenics lab in New York, funded by the Carnegie Institute. He was a terrible racist who wanted to eliminate alcoholism, mental retardation, prostitution, and various ethnic groups such as Italians and Jews by means of selective breeding and sterilization (This era is discussed

in very good detail in Leahey, *A History of Psychology*, p. 431 et. seq.). After the war, there was compulsory sterilization in 30 US states for problems like epilepsy, conviction of rape, moral degeneracy, prostitution, and being a drunkard or a ìdrug fiend.î The constitutionality of these laws was upheld in the US supreme court in !927, in Buck vs. Bell; Buck was a black woman living in Virginia who sued the state after being sterilized after giving birth to a mentally retarded daughter. The majority opinion was written by Oliver Wendell Holmes.

Many people condemned eugenics, and most biologists pointed out that it is stupid, since 90% of all mentally retarded children are born to normal parents, and mentally retarded people can produce normal children. Eugenic theorizing was really a matter of power and racism and the attempt to breed in the interests of those in power. Otto Klineberg was a psychologist who tested different races and found no differences; he showed that northern black children did better than southern black children because they got better education. In the 1930's, eugenics gradually died away in the USA, and the Nazis took it over, leading to much embarrassment among American eugenicists. But Virginia did not get rid of its eugenics laws until 1981!

One of the main arguments against eugenics was provided by Margaret Mead's work in Samoa; she thought that human nature was most determined by culture. She reported that her fieldwork suggested that the Samoan culture was well adjusted, people were happy, there was no aggression or competition, sex was sheer fun, there was promiscuity, no rebellion of the youth--a kind of Utopia--all outside the tradition of the West. None of this turned out to be true, by the way, but it served the purpose at the time of suggesting that human nature was determined by culture more than nature.

The Effects of WW 1

After WW1, the US became an industrialized, urban nation, and a great power. Progressive politicians, led by Woodrow Wilson, briefly saw a chance of establishing social control as a foundation for the peace that was supposed to come. Increasingly, a patriotic, efficient nation was emerging out of scattered groups. But the war frustrated the dream of the Progressives. Government bureaucracies actually achieved little, the victors were mostly concerned with who got what, and Wilson was ignored as an idealist, unable to bring the USA into the League of Nations. People tended to be pessimistic about the future. It was obvious that reason was not going to be enough to establish social control. Americans turned to social science and

psychology to solve the problems of the post-war world, to re-shape society[89]. Psychology became a major force in society; there was a need to find ways of controlling people, and insights were needed into many kinds of social problems, for which psychology seemed to offer help. Religion seemed to be finished; a huge percentage of early behaviorists, like Watson, had been raised in strict religious homes, had thought about going into the ministry, but lost their faith. Science undermined religion; scientism took over as the source of guidance. But gradually, in the 1930's, the public became disenchanted as science did not live up to its promise.

The final part of the story of behaviorism: People realized that rats were not a good model for studying people, and it turns out that people do have consciousness and mental processes, even if the behaviorists denied them. But meanwhile philosophical or logical behaviorism arose; this is a semantic theory about what mental terms mean; to attribute a mental state such as thirst to an organism is the same as saying that the organism is disposed to drink. When we attribute a mental state to a person, we are really just describing how she is likely to behave in a particular situation, not a true mental state. That is, mental state = behavior; but, as the British philosopher GE Moore said, if we pity a man for having toothache, we are not pitying him for putting his hand on his cheek. We can forget this idea.

There is another approach to the mind called ordinary language philosophy that has an opinion about the nature of the mind.

Ludwig Wittgenstein (1889-1951)

For language philosophers, meaning and mind are inseparable, and the philosophy of mind is linked with the philosophy of language. Two important philosophers of language relevant to psychology are Wittgenstein[90] and Gilbert Ryle.

There are conflicting ways of interpreting Wittgensteinís work, which is in two phases; some philosophers focus on his early *Tractatus* of 1921, while others rely on his later work, *Philosophical Investigations*, posthumously published in 1953. The *Tractatus* was written

[89]Philip Rieff (*The Triumph of the Therapeutic*) suggests that in the Middle ages there was faith in God and rule by the Church; the 19th century had faith in reason and was ruled by the legislature; the 20th century put its faith in science tempered by the knowledge of the irrational and now rules through the hospital and through psychotherapy.

[90]There is not much information about Wittgenstein's childhood; he said it was miserable, lonely, and he thought of suicide. He was the son of an Austrian industrialist, the youngest of 8 children. Both parents were musically gifted. He was educated at home until the age of 14, then studied mathematics and engineering, especially aeronautics, which made him interested in mathematics. From here he went to Cambridge to study mathematical logic with Russell. See George Pitcher, *The Philosophy of Wittgenstein*, Prentice Hall, 1964.

during WW 1, while he was in the Austrian army, and a prisoner of war. Here he believed that we are misled by the huge variety of the kinds of uses of language, because hidden beneath all this diversity there must be a unifying essence, to which we must penetrate. The central questions of the book are: How is language possible? How do we say something with a sequence of words? How do others understand these words? His solution was that a sentence must be a ìpicture of reality.î A verbal proposition is an arrangement of signs that are correlated with the elements of reality, so that there is a connection between the signs on the paper and the situation in the world. Language has limits; pictures of the world and situations in the world must share the same logical form, which is the form of reality. But, this form, which is common to language and to reality, cannot itself be represented. Propositions can represent reality, but they cannot represent what they have in common with reality in order to be able to represent it, which is logical form. We can only say things by means of a proposition, but we cannot say what is necessary for the understanding of propositions. We cannot represent (say) other things, such as the existence of a thinking, willing self, and the existence of absolute values. These things are unthinkable, because the limits of language are the limits of thought: ìwhereof one cannot speak thereof one must be silent.î That is, there is a realm that cannot be spoken of. Some things can only be shown.

In other words, in his *Tractatus*, Wittgenstein says that everything that can be thought can also be said, whereas nothing can be said about something, like God, that cannot be thought about properly. At this stage, he thought that there are atomic or basic facts about reality that are unanalyzable, while language is about naming objects. The world is made up of many facts, and language can only be used to picture facts or to make logical statements--this is called Logical Atomism. Any use of language other than this is meaningless--ethical or metaphysical statements are therefore nonsense.

In the 1930's, when *Philosophical Investigations* began to be conceived, he abandoned the earlier positions of the *Tractatus*. He gave up the idea that theres is a hidden unity hidden in the diversity of language. He realized that there cannot be a perfect language that accurately mirrors the world. He gave up his earlier ideas that every proposition has a definate sense, that reality and language are composed of simple elements, that there is an essence of language and thought, and that there is an a priori order of the world. He rejected the assumption that all representations (what we say) must share a common logical form, and so gave up the idea of the unsayable. In this book, he shows that our our world is constituted by linguistic experience, and suggests that all philosophy is a critique of language. He would ask why we use a particular word or expression, since he believed that to focus on the use of language would solve many

philosophical problems. That is, the focus of philosophy now shifts from ideas to words, so instead of thinking about religion or ethics, we now must focus on the language of ethics or religion. Philosophers had asked about the nature of thinking or of knowledge, but these problems are softened by describing the range of different cases in which we use these words in every day speech. When we describe the different ways of using these words, we get rid of the obsessive belief or preconception that there must be an *essence* of thinking or knowing. Concepts are linked to actions, to their expressions in our lives. When trying to understand words like ìknowledge,î we should ask: What kind of actions accompany these words? What will the words be used for, in what aspects of life? That is, instead of thinking of philosophical concepts as existing in an intangible realm of mind, we can think of the forms of human life in which the concepts are embedded.

Wittgenstein used the analogy of games to describe his ideas. Is there a common nature or essence to all games? No; there is a network of games with similarities and overlaps, but no feature common to all games. Games share a family resemblance, and so it is with words like ìknowledge,î ìbelief,î and so on--words belong to families of similar words. We call something a belief because it is similar to other things that have been called beliefs. We extend the meaning of a term from earlier cases to new cases; it is like spinning a fibre; when we spin a fibre, we twist fiber onto fiber, and the strength of the resulting thread is not based on one fibre that runs through its whole length, but in the overlapping of many fibres.

Just as a chess move only makes sense in the context of playing chess, so the meaning of a sentence depends on its place in a group of sentences; a sentence is one move in a language game that presupposes the conditions that allow us to engage in the game. Language is a tool, and the use of language is a "form of life" that involves particular techniques. To follow a rule is a form of life, like any kind of human activity[91].

Wittgenstein believed that philosophers had been misusing language, and the way to clear up problems of philosophy is to clarify the key terms that are used. Initially he had thought that philosophers are trying to answer problems about the world; now he sees philosophical problems as puzzles that do not need answers, but puzzles that we need help in finding our way around; we just cannot see how to put the pieces of the puzzle together. There are conditions of human understanding; these conditions are embodied in a complex way in language, and metaphysical

[91]However, the activity of following a rule is itself an activity that is not completely governed by rules, because sometimes the rules do not apply; then the system has to plug holes.

propositions violate these conditions. (See Stanley Cavell, The Availability of Wittgenstein's later philosophy. In: *The Philosophical Review*, LXXI, no. 1, Jan. 1962, pp. 67-78).

Wittgenstein developed the method of language games to show that the function of philosophy is to indicate the significance of terms by showing how they are used; don't ask for meaning, ask for usage--the meaning of a word is its use in the language. Words are not labels for things, they do not stand for objects; understanding the uses of words is like understanding the rules of a game, and just as it is confusing if a player makes up a new rule in the middle of a game, so is it confusing when we use language in a new way. Some philosophical problems arise because language is misused. We don't resolve problems by answering them but by showing that they involve confusions in the way we use language. We have to stop using words as signs that refer to things, as names for objects, and start thinking about words as tools that can be used in various ways. When we use a word it is like a move in a game; it would be senseless to ask what a chess move stands for or represents, so it is senseless to ask what the word stands for. We have to see what is done with the word, the way we understand a machine by watching its operation.

If I want to understand the meaning of "pain," I acquire the technique of using the word; there is nothing hidden about this. But psychologists think that sensations are private experiences--as in, "I know I am in pain, but I can only believe that you are." Here Wittgenstein would say that to speak of private sensations is to confuse the systematic or *grammatical* use of the word "sensation" with a nonlinguistic act of being in pain. I can doubt that someone else is in pain, but I do not doubt that I am in pain. To say that "I know I am in pain" is only to emphasize that "I am in pain; " the word "know" is confusing here and can only be clarified by investigating the multiple meanings of what "know" means. To say I describe my state of mind is a different use of the word 'describe' than when I describe my room--these are speaking of different games, but we tend to assimilate and crave similarity and uniformity to smooth out differences between ideas. A pain or a sensation is not a *something* and it is not a *nothing*; we cannot say what it is; he rejects the grammar that tries to force itself on us here. We have to start seeing variety instead of similarity.

Instead of studying "inner processes," to learn about memory, etc., the proper procedure, according to Wittgenstein, is to attend to the use of the relevant term. If we observe the use of terms like ìsensation,î ìpain,î ìthink,î ìremember,î we see that the technique of using these words does not depend on introspecting private mental processes. Processes like intending, feeling, understanding, are techniques, forms of life, modes of action; to understand is to master a technique.

Wittgenstein argued that Cartesians have led people to believe that there are mental objects such as sensations, and mental processes such as memory, but in fact there are neither. Eg, is there an inner act of remembering common to all acts of memory? How do you remember where you put your keys? You retrace your steps, you ask yourself where you put them, you suddenly realize where they are, or you just know. Each case is different but each remembers where the keys are. There is no essential behavioral process of remembering. Each act shares a family resemblance; each person in a family may resemble the others but be quite different, with no essential defining characteristic. Wittgenstein argues that terms referring to mental processes are all family resemblance terms with no defining essence that can be captured. Remembering, thinking, willing, etc, are not processes, but human abilities; there are no processes of thought to be found; we just think. Psychology's confusion is to look for non-existent mental processes and then to look for explanations of fictitious objects and processes. There is nothing behind our acts; no Ghost in the Machine. Similarly, there is no point in asking a physicist why sub-atomic particles move the way they do; but given these properties, he can explain their behavior. Psychologists assume that thinking etc. needs explanation, but they do not; they are human abilities that we just do, without there being an inside story. (But thinking and feeling are more than just behaviors.)

Wittgenstein says that the way we frame questions about human behavior determines much of the answer that we get from our investigation; perhaps more than the empirical facts. The mistake of the psychologist is to ask the wrong question, such as how do we think, and then we commit ourselves to a way of looking at the problem based on our concept of what it means to know the process better. But this is a conjuring trick, according to Wittgenstein. We cannot explain behavior, we can only understand it by taking into account what he calls human forms of life. Eg, art is a form of life; a painting is either considered beautiful or not by the standard of the viewer--whether you like modern art or not depends on whether you participate in that form of life. All human action is only meaningful in the context of a form of life. If you are in a foreign culture, it is hard to understand because that is not the form of life you participate in. According to Wittgenstein, there are no universally and historically permanent principles for understanding human behavior. He says we have to give up the craving for generality, stick to the particular case, study forms of life and explain human actions within their forms of life.

When I speak of expecting, intending, remembering, these are forms of life made possible by the use of language, and language itself is a way of life. If we try to find criteria for these states, we find various expressions; by noticing the uses of various expressions we learn what behavior makes us use these terms; there is no need for reference to inner thoughts or intentions or

memories. To understand the nature of something is to acquire the technique of using the language that prompts the question about it. We discover the multiplicity of uses, and that is it.

Mathew Stewart (*The Truth About Everything*, p. 437, says:) Wittgenstein's idea is that language is the form of our world; language is our pair of spectacles through which we see the world. From the analysis of language, which is a form of experience, we arrive at basic truths about the world, which is a content of experience. The fallacy is that by looking hard at ones spectacles, one cannot determine what can be seen through them! In other words, Wittgenstein says that language determines what is possible; language is the structure of what is possible; no other structure is possible, so it is actual--the possible is the actual; the holy grail. But, you cannot deduce content from form!

Gilbert Ryle

In 1949, the British philosopher Gilbert Ryle attacked what he called the dogma of the "ghost in the machine"--the ghost is the mind, which is said to be a mysterious entity that thinks and knows, etc. Descartes had begun this trend by defining two worlds, one material and one mental, as if there is a ghostly internal stage on which private mental events occur. Ryle said this is a category mistake; mind is not a distinct thing lying behind behavior. It would be as if we drive through Santa Barbara, and see all the buildings, then ask, where is Santa Barbara? Because there is a name, it is a mistake to assume that there must be something that is separate from the buildings and the people. Because Descartes uses terms like ìintelligent,î ìhappy,î ìsincere,î there is no need to assume that there is a mental *thing* that is behind the behaviors that makes them intelligent, happy, etc. The behavior *itself* is intelligent, etc, and there is no inner ghost to make them so. To invent the ghost in the machine does not help, since we then have to explain why the ghost is intelligent, etc. Is there a ghost in the ghost, and a ghost in the ghost in the ghost, etc,? This idea only complicates things.

Ryle's argument is that a word like "know" is supposed to designate an internal operation, but the operations of the mind can actually be seen because they are dispositions for things to happen; eg if we say that salt is soluble in water, we mean it will dissolve; salt has the disposition to dissolve. Knowing and believing etc. are dispositions in exactly that sense; to say I know something is to say that under certain conditions I can do something of a certain type. Knowing is not some hidden operation of a ghostly entity, it is the observable exercise of a capacity. There is no internal ghostly mind doing the knowing.

But it is a mistake to assume that Ryle is just a behaviorist who claims that mind is just behavior; eg, if we see birds flying south for winter, a strict behaviorist will say that migration is flying south behavior. But Ryle realized that saying that they migrate is saying more than just that they fly south; there is a story behind why they fly south, how they will return, how it is a yearly event, how they navigate, etc. Similarly, to say that behavior is intelligent does more than describe behavior. The statement has all kinds of implications about the behavior being appropriate to the situation, being helpful, and so on. But that is not to say that there is a ghostly inner calculator who decides on the behavior; Ryle's analysis of mind rejects dualism, since he thinks that body and mind are not two things. An intelligent performance is not a clue to the mind, it is the *working* of the mind; he is somewhat different than psychological behaviorism or philosophical behaviorism.

Why is all this relevant? Because, if Ryle and Wittgenstein are right, psychologists are looking for processes that do not exist--there is no act of thinking independent of the act of expressing our thoughts. Explanations have to stop somewhere.

Meanwhile, apart from the philosophers, behaviorism carried on. After WW 2 , behaviorists applied the methods of logical positivism and operationalism, which they assumed must be the correct philosophical orientation for psychology. In 1950 there was a major conference on learning theory in Dartmouth, where there was an attack on any theorist, such as Hull or Tolman, whose work was considered to be inadequate by the criteria of logical positivism. This might be because the work had too much indeterminacy, or not enough definition of independent variables. One of the theorists who was considered to not meet the positivist criteria for good theory was B. F. Skinner.

B.F. Skinner (1904-1990)

Skinner's theories did not have to live up to logical positivist ideas because they did not try to! Skinner was a radical positivist, a radical empiricist, and a radical behaviorist, who had his own standards of theoretical adequacy. Partly thanks to his attitude, the question began to be asked whether logical positivism really was the correct standard for psychology. His behaviorism is entirely controlled by data, not by conformity to theory, or by *a priori* assumptions.

Skinner would reject the whole philosophical approach to psychology and replace it with scientific psychology grounded in neo-Darwinian evolutionary theory that looks *outside* of human beings for the causes of behavior. He entirely gives up the idea of looking for internal

processes that produce consciousness or behavior. The responsibility for behavior, as Watson had said, was solely in the environment--control the environment and you control behavior. We do not act according to moral values of ought and should; we do not deserve praise or blame for what we do, because everything is controlled by the environment.

Skinner denied the copy theory of cognition, that says that there is a mental world of objects, ideas or representations, and this mental world is the subject of psychology. Radical behaviorism denies this inner world; so does neorealism (classical realism said that the world is the way it seems to be; in Aristotle, there is no separate world of Ideas, since universals or essences exist only in the objects of the world). We perceive objects directly, and they directly control our behavior. (Skinner did give some credence to private conscious experience such as pain--it's a private stimulus to behavior.)

Skinner attacked Freud's notion of id, ego and superego or any type of mental processes, since mental states are irrelevant to behavior. If you are afraid of a teacher, this is not because there is a mental representation of an abusive father in the unconscious, but because you have learned fear and now fear punishment; the mental link adds nothing. In fact it makes things more complicated since we have to explain the mental link. Remembering is simply an act, and there is no need to refer to a mind that remembers. Skinner rejected all unobserved hypothetical entities such as the ego, or any form of subjective entity such as mind, thought or memory. These are all verbal constructs, traps that we fall into as language developed. They try to be explanatory entities, but they themselves need explaining. Thinking is behaving; there is no need to allocate this behavior to the mind.

Like Francis Bacon, who Skinner admired, truth is found in observation alone, rather than in our interpretation of our observations; truth is simply about what does or does not happen; this is called descriptive behaviorism. Some behavior is reinforced, and some is not; behavior that is reinforced is strengthened since it contributes to the organism's survival and is learned; what is not reinforced is not learned. All behavior is a product of the organism's reinforcement history and genetic make up. Behavior is never due to intention or will. We do not even need a theory of learning, since behavior is simply about reward and punishment.

Skinner also wants to control behavior, since this was the test of scientific adequacy of his ideas. Prediction was not enough, since he could not rule out an unknown factor controlling the outcome--there may be a third factor affecting both stimulus and response; eg, something may cause both cigarette smoking and cancer. According to Skinner, we need a technology of

behavior, so we can engineer behavior for specific purposes.

Skinner researched what he called operant behavior; in contrast to respondent behavior in which a response is generated by a specific stimulus, operant behavior is going on all the time with no apparent stimulus. Operant behavior means behavior in which the organism operates on the environment in some way, that might be quite random, but if that behavior is rewarded we have established operant conditioning. By rewarding random behavior in a pigeon, Skinner could shape the behavior of the bird. But operant behavior is not just elicited behavior; he trained a rat to obtain food by pressing a lever whenever a light was on; eventually the rat only pressed the lever when the light was on. Bar pressing is then the operant behavior. But Skinner says it is not the light stimulus that is eliciting the response, the way Pavlovís US or CS elicited salivation; whereas Pavlov sounded the tone before presenting the food, in Skinnerís box the rat had to press the lever to obtain the food; the response is crucial, not the stimulus. The light simply sets the occasion for reinforcement and enables the rat to discriminate a reinforcing situation from a non-reinforcing situation--operant behavior means that the organism manipulates the environment until it gets what it wants. If Skinner presented food after a bar press, the likelihood of bar pressing would increase. So Skinner denies he is a S-R theorist; there is no reflex link between S and R. He defines reinforcement as the probability of a change in the operant rate--the rate of responding is the basic datum of analysis of behavior. Human behavior is just the result of long chains made up of links of simple behaviors that have been operantly conditioned.

Skinner also said that the rat can be affected by variables that are not stimuli, such as motivation to obtain food. But, whereas motivation in Freud and Hull is about drive reduction--hunger leads to unpleasant stimuli, which the organism tries to reduce--Skinner has no need for the concept of drive-stimuli; this is mentalistic thinking. He simply links food deprivation to change in behavior; deprive the organism of food, and there is a lawful, observable change in behavior; nothing is gained by speaking of drive reduction or stimuli. There is a variable--food deprivation--and a change in behavior; it is irrelevant whether the organism is aware of the stimulus; there is no need to speak of intervening variables between S and R; we can get rid of them by replacing the name of the intervening variable, such as a drive, with its operationally defined definition--eg not feeding the organism for a long time.

Skinner believed that language (or at least, speech) can be approached within his framework (*Verbal Behavior*, 1957); language is behavior that is reinforced by other people. In the childís development, we reinforce certain sounds and certain ways of speaking. (Chomsky critiqued this

idea, arguing that the acquisition of syntactical structure--grammatical structure--requires the existence of a mental structure that he calls the language acquisition device. Without this, true language could not emerge. This idea is consistent with Piaget, not to mention Jung.)

For Skinner, thought is a form of behavior---again, no mentalism is allowed. In 1971 he wrote a paper about the process of writing a poem, in which he uses the analogy of having a baby and having a poem. When a person produces a baby we call her a mother; if she produces a poem we call her a poet. There is no personal creator in either case; there is simply an act involved, in which something new appears. Here is his Darwinism; a baby is a random collection of genes that may be selected for growth or may die; a poem is a collection of bits of verbal behavior, some of which are selected and some of which are rejected. Just as Darwin showed that there is no need for a divine Mind to explain an organism, so Skinner tries to show that it is not necessary to invoke a mind to explain language.

Skinner extended his radical behaviorism to all human behavior. He viewed animal and human behavior as essentially the same--he says that there are no species restrictions on what he finds. He had a vision of a utopian society, or for the reconstruction of society on the lines of his behaviorism. He described this in his *Walden II*, (1948), which was an experimental utopian community that contained no failure, no boredom, and no duplication of effort. Walden was his image of an ideal society, his proposed solution to social difficulties. Skinner spread his social message with his *Beyond Freedom and Dignity* (1972), in which he argued that it is a mistake to believe in free will, moral responsibility and dignity, since behavior is entirely a matter of conditioning. He was a hard determinist, and believed that we need a technology of behavior to improve us, using positive reinforcement. (Punishment does not work; we avoid it, but we do not avoid positive reinforcement.) We should substitute deliberate, scientifically based, systematic control of behavior for the rather haphazard control we have now. For this purpose we must abandon belief in freedom. Praise and blame are equally meaningless (Spinoza said the same thing) because all behavior is determined by contingencies of reinforcement, not by free will. Human behavior is a purely natural phenomenon, like the behavior of the physical world. This approach is Darwinian; it will ensure our survival. (Skinner liked Rousseau, who also thought that all our problems are in our environment, although Rousseau thought we are free agents.)

Skinnerís ideas were used to treat mentally ill people with what became known as behavior modification. At a state mental hospital near Boston, he and his students set up a regime in which patients were given tokens for appropriate behavior, such as good grooming. These

tokens could be exchanged for candy or cigarettes. This kind of therapy is still used in the management of severely disturbed people.

Needless to say, many people did not like Skinner's mechanical concept of human nature. Very few people believed in the empty organism theory of human nature, or that there is nothing linking S and R. It is obvious that complex behavior such as intention, meaning and language is more than can be explained with an empty box theory. People have symbolic processes, we can represent the world in our minds, and our responses are affected by these symbolic representations. It seems that some at least of Skinnerís popularity was the result of his personality; like Watson, he was fluent, narcissistic, and charming. Gradually, Skinnerís brand of behaviorism became isolated from the rest of the profession--his followers have their own division 25 in the APA, and their own journals of the experimental analysis of behavior. But less rigid ideas about operant conditioning are still found to be useful.

Behavioral ideas have been applied in many settings--therapy, education, advertising, etc. Today, some behaviorists also use cognitive models that are mentalistic, while some are still radical Skinnerians--behaviorism is now a very eclectic field. The problems seem to be that animals sometimes behave in unpredictable ways rather than according to universal laws of conditioning. It was hard to generalize from one species to another--it is hard to get cats to press levers for food. Each species seems to have its own brain wiring that allows it to learn some things easily, perhaps instinctively, while other behavior cannot be learned. It also emerged that Skinnerís rate of response curves (the rate at which an animalís behavior changes in response to reinforcement) often could not predict the behavior of animals. When a rat gets no reward for bar-pressing, theoretically that behavior should be weakened, but sometimes the rat presses the bar more and more forcibly. It also seemed that rats sometimes seem to have rudimentary purposive thinking, which is not supposed to exist. This is why Tolman said that the rat seems to be engaging in trial and error in its head. Eventually he developed his purposive behaviorism, which says that animals are influenced by expectations, goals and other internal states that he called intervening variables. He tried to say that these were compatible with behaviorism because they are defined in terms of the behaviors to which they lead. But, this let a little mind into the field. It became obvious that we need reasonable inferences about what goes on in the mind. Behaviorism lost its prominence, after years of effort that led to very little. Cognitive science emerged in the 1960ís.

Cognitive Science

How are we to understand human symbolic functioning, or higher mental processes such as thinking and memory, without multiplying hypothetical mental entities (such as the ego) for each behavior[92]? What actually mediates between a stimulus and a response? After WW II, cognitive psychology arose to deal with this question, at the same time as computer programs were appearing, which allowed a new models of the mind to develop. For cognitive science, the answer to what happens between S and R is information processing in the brain, which has been the guiding metaphor of this field since the 1960ís.

Cognitive science led to the development of artificial intelligence, which again brought up the old question of how close people are to machines. Descartes thought that all human cognitive processes except thinking are carried out by the machinery of the CNS. The difference between humans and animals, and mind vs. body, he thought was only our thinking ability. Pascal believed that the human heart separates people from machines. Hobbes and La Mettrie believed that people are only machines. But the Romantics were horrified at this idea--they value feelings that machines cannot have. Leibnitz conceived of a thinking machine. William James decided that a machine could not have human feelings, and posed the automatic sweetheart problem; in his *Pragmatism*, he asks: What if you are in love, and then discover that your sweetheart is really a machine? Do you still love her? James thought not; it is not just the loving looks and caresses that matter, but the sense of a mental state called love that mirrors oneís own. However, Watson and Skinner decided that humans are machines. Commander Data, of Star Treck, is an image of the fantasy that machines can approximate human behavior.

Science has increasingly made our world more mechanical, but there has always been the nagging question of how to explain purposive behavior. We may try to explain this behavior by reference to inner, mental events, which risks a ghost-in-the-machine theory, which is a problem because we then have to explain the behavior of the ghost. We can explain behavior as purely mechanical, as did Hull, or as purely environmentally controlled, as did Skinner, but these theories do not explain goal-directed behavior. With Brentano and Wittgenstein, we can accept purpose as an irreducible truth of human action that does not need explanation, but then we don't have a science of psychology. Tolman made purpose a part of the organism's cognitive map, which led to the Cartesian category mistake of postulating a homunculus in the head that made the decisions, since a map implies a map reader, which is a ghost in the machine.

The development of the computer in WW II seemed to offer a way around the ghost problem

[92]Cognitive psychologists scathingly called this junkshop psychology.

usning the concept of information feedback and computer programs. This produced a functional solution to the mind-body problem that says that the relationship between mind and brain is like that of a computer program to its hardware. In a computer, there is no ghost doing calculations--it's all done with electronic processors that apply formal rules to the way the data are represented; the calculations are totally mechanistic, applying step-by-step actions to symbols. People have wetware instead of software; your mind is your program. The hope of cognitive science is that one day words such as need, emotion, and thinking will be replaced by physiological information about the state of the brain. This idea is really neobehaviorist in its flavor. It wants to get rid of the mind-body debate by explaining mental processes in terms of neurochemistry.

Both brains and computers process information. In the 1950's, people looked for parallels between the structure of the brain and the structure of computers. What matters to people is the program, which is the mind, as *distinct* from the computer itself, which is the brain; this means that cognitive psychology is not neurology; cognitive theories of thinking are about the mind, or the human program, which made psychologists happy. People are general-purpose computers; the brain is the hardware, and it is programmed by socialization and experiences to behave in particular ways. We just have to learn how we process information; we don't need S and R anymore, now we have information input and output. The hope was that theories of the mediation of S-R chains would be replaced by theories about internal computational states. (The main early workers were Newell, Shaw and Simon with their 1957 General Problem Solver program, which could prove geometrical theorems, do arithmetic and play chess.) It is interesting that the originators of these ideas were not psychologists; psychology assimilated the computer model.

For cognitive science, goal direction, purpose and cognition are not necessarily mysterious. Eg, feedback is important to the thermostat; when it gets too cold, the feedback, the heat, comes on until the feedback says enough--a feedback loop. Here the "organism" is apparently goal directed; it "wants" to maintain a constant temperature--but there is no ghost in the thermostat. A guided missile allows a bomb to hit a target with information feedback--it is a mechanism with purpose. So, it seemed that perhaps animal purposive behavior is the result of feedback; the organism has a goal, eg to get food, and behaves in a way to get to the goal by trying to achieve it with complex, error-correcting feedback loops.

It looked as if a machine could be purposive. But, is the machine intelligent? If so, is its intelligence anything like human intelligence? This became the central question of cognitive

science. The trouble with the question "can machines think?" is how to define "think." Allan Turing answered this question by setting up a game in which we are either getting responses from a computer or from a human being, without knowing which. We ask questions, and if we cannot tell the difference in the responses, we can consider the computer to be intelligent. This is the Turing test, and it is one criterion of artificial intelligence. Machines can play chess, assemble cars, explore Jupiter, etc. The hope of these scientists is to make a thinking robot that cannot be distinguished from a person in its responses--a return to La Mettrie. Would the computer be reasoning the way we do? There are many problems with the comparison. For example, the mind knows the meaning of the symbols it uses, but the computer just manipulates them without understanding what it is doing. Does the computer have a sense of self, or of its place in the world? Is the computer conscious, whatever that means? Can they change their minds? Do they have free will or creativity? Do they have emotions that affect their thoughts? The latest view is that the brain acts like a parallel computer that processes many signals along many pathways simultaneously.

Today, many cognitive scientists believe that neural events cannot provide a sufficient explanation of cognitive processes, because although psychological events need a neural substrate, they are properties of the organization of the brainís components, of the so called metastructure of the brain. What matters are the overall properties of the system rather than properties of the components themselves. (Analogously, a painting cannot be understood in terms of paint chemistry, nor a home in terms of bricks and mortar, nor poetry in terms of the ink and paper with which it is written.) The hard problem of consciousness is that there is no reason that a functioning brain should produce consciousness; it could just happinly fire its neurons.

Humanistic Psychology

It is interesting that humanistic psychology also grew in importance after WW II, at the same time as cognitive science--the psycheís balancing act. This tradition is also called the third force movement; psychoanalysis was the first, and behaviorism the second force in psychology. Humanistic psychology is a view of personality that sees people as in search of the full development of their potentials, rejecting any materialistic or mechanistic explanations of behavior or psychological development. This movement emphasizes personal freedom and responsibility; the mind is thought to be an active, dynamic entity with unique human qualities. There is no physiological reduction; there is a human quest for values and philosophical attitudes, and an emphasis on the uniqueness of the personality. In a way the third force was a reaction to the trend to mechanism and physiologicalisation; it did not arise from the academy

but from clinical work.

The basis of the third force is a combination of existentialism and phenomenology, so it is important to understand these background philosophies before discussing their application to psychology and psychotherapy. This means a digression into philosophy, but as we have seen there are important connections between psychology and philosophy. In particular, psychology is interested in consciousness, and philosophy in general tries to understand the relationship between consciousness and being.

Existentialism comes in a range of colors and styles, often connected by little other than name. Existentialists are opposed to purely rational philosophy (the search for knowledge using the mind), and are more worried about how to live.

Phenomenology itself is an attempt to reconcile two perspectives; empiricism, which makes the world an impersonal machine that does not care about people, and rational idealism, which tends to ignore the world itself and leave us self-absorbed and brooding. Existentialism is not the same thing as phenomenology, but they fit together because existentialists see themselves as accepting the world as they find it in the lived experience of people. Existentialism offers a way of facing life without despair, by saying "take responsibility for your world and what you do, and realize the full potential of your existence in your own terms."

Existential philosophy says that we are free to chose our life direction; this freedom also gives us responsibility for our decisions, although such freedom also causes dread and anguish. (Not exactly a new idea in philosophy. It goes back to Socrates and Aristotle.) In the 19th century these ideas are found in writers such as Dostoyevsky--should Raskolnikov commit murder, or not? For Nietzsche, since God is dead we are alone, with no one to rely on for security, with choices and the consequences of choices.

Freedom, or the lack of it, has been a big issue in philosophy and psychology, ever since the Greeks wondered whether or not we could escape fate. Are we in control of our lives or are our actions determined by forces outside our control, either human or supernatural? Is the mind mechanical? Perhaps we only think we have choices; perhaps these choices are the result of forces outside the self. The (German) idealists rejected this view by saying there are spiritual reasons woven into the fabric of reality--the world is not just mechanical. But they came up with such grand and impersonal concepts of history that there is not much room for individual freedom--eg, Hegel sees things that happen as the result of history working itself out, or the

Absolute Spirit working itself out through history[93]. But later thinkers placed more emphasis on personal freedom; according to them, we can have control over our lives; here we have John Stuart Mill (Utilitarianism), Karl Marx, Kierkegaard, and Nietzsche, who all look at determinism differently.

One approach is mechanical determinism, which says that everything is caused by something physical. This grew out of empiricism; the empiricists had to wriggle to explain the sense that there are mechanical causes that make us who we are yet we feel that we have free will in our actions and thoughts. Historical determinism suggests that social and historical forces govern our actions; eg, Hegel and Marx (1818-1883). Marx believed that the way people live is determined by the way we make, distribute and use material goods. For Marx, communism will lead to everyone being able to work for themselves, rather than for someone else, and for the common good; we will be free to take pride in our work, not in how much money we have; under capitalism we are not free because we work for someone else. This idea did not quite work out in practice. But Marx did succeed in making it clear that ideology affects our thinking and behavior, and that religion and popular belief reflect society's power structures, which we have to fit into, so we are not totally free.

Soren Kierkegaard (1813-1855)

Kierkegaard was regarded as a crank in his home town, and made little impression in his own time; he was just a nuisance to the Church. But he has had a profound influence since the beginning of the 20th century as an important precursor of existentialism. He asks; what is the point of our lives? Our lives are anguished and harrowing, absurd and meaningless. How do we deal with this predicament? How do we know what is true? There are extreme limitations on the possibility of human knowledge, but we need knowledge to decide what to do. There are no guides and no way of determining what we ought to do, so we can either remain skeptical forever, or take the leap into absurdity, which means to accept faith and belief irrationally. Since the existence of God cannot be proven, all we can do is decide to believe.

[93]For Hegel (1770-1831)--a difficult writer, hard to interpret--Kant's categories that give shape to reality keep changing and conflict with each other--they develop and work themselves out over time; they are in a constant state of flux with their opposite qualities. He describes a dialectic that consists of the back and forth process of ideas working themselves out over historical time. An idea, or thesis, conflicts with its opposite, its antithesis, until a resolution occurs in a synthesis--eg, being and nothing work out their differences and resolve into a synthesis of becoming. Reality unfolds over time; reality is like a Big Mind or Spirit unfolding over time; reality is trying to realize itself, to see what it is and become what it sees that it is. When an idea becomes fragmented and distant from other ideas, it becomes alienated--eg the idea that God is unknowable and separate from humanity--this makes people feel alienated.

Kierkegaard reacted strongly against deterministic thinking--the idea that things, including how we behave, have to happen the way they do. Kierkegaardís ideas are based on the importance of the individual and individual choice. He objected to Hegel because his ideas were so impersonal and abstract, ignoring peoples' actual lives. Kierkegaard thought that a meaningful life is important, and we find life meaningful if we sense that our lives have permanent significance. But, most people think that their lives are only temporarily important. He believed that religion gives life permanent significance. Once you get fed up with art and pleasure, you will feel your impermanence and insignificance, and you will despair; now you can either try to go on living in despair or you can try to lead an ethical and responsible life; this gives a sense of permanence to life. But this relief may not be permanent; if despair comes again, you must take a leap of faith into a religious existence. It has to be a leap of faith because there are no rational reasons for making this move; it cannot be influenced by philosophy or religious institutions; it's just a matter of your own personal choice and commitment. This leap of faith takes us out of despair, but does not provide a permanent solution to life's difficulties; the decision has to be renewed periodically. Kierkegaard believed that western civilization was no longer really Christian; it has lost its faith, or our faith was only superficial.

Kierkegaard wanted to argue the primacy of faith over reason--he thought rationalism, such as that of Hegel (who had tried to explain all of existence within his system of logic) distorts human experience. A philosophy based on logical principles could not hope to explain existence. Faith makes existence authentic; existence is not something to study but to live. There are no universal truths, since the truth is personal--what matters is the truth that we live by. He recommends that we eschew philosophical abstractions. Like Schopenhauer and Nietzche, Kierkegaard emphasizes the non-rational side of human nature, and the fact that the only truth that matters is the one to which we commit ourselves, that by which we could live or die. (Remember how cold truth used to be?). When we ask this question, we begin the existential concern of philosophy; who or what am I? What should I be?

Kierkegaardís emphasis on emotion is very relevant to psychology. Philosophers had tended to downplay emotion in favor of detached thinking, as if emotion were the opposite of reason. But for Kierkegaard we only know the most important things through intense feeling and passion, and only the depth of emotion ensures moral consciousness. (Hence his emphasis on anguish and dread.)

Kierkegaardís work gave rise to existentialism, which became a major trend in 20th century

philosophy. Existentialism focuses on the meaning of existence for the individual. But later existentialists arrived at very different answers than Kierkegaard, as we will see. There were some other important precursors to existentialism; Nietzsche also influenced this development because of his focus on the freedom of the individual. Dilthey called for a science of the spirit as opposed to the natural sciences, pointing out that they need different methods. He believed that understanding human actions is fundamentally different than explaining physical events; the same physical event may be understood many different ways at the human level. We have to understand our uniqueness and our motivations, and this cannot be done with natural science. Dilthey is an important precursor of hermeneutics (today Gadamer is the main spokesman.)

Hermeneutics is about understanding rather than explaining. Freudís method of workinng with dreams was hermeneutic--they are to be examined for their meaning. All psychology can be viewed this way--a person can be understood as a text that has meaning. According to the hermeneutic[94] tradition (originally important in the work of religious philosphers like Schleiermacher who specialized in the interpretation of the Bible) the phenomena that we encounter are always a product of an agent; to understand the agent, we have to get into that person's head; we must think of intention and meaning rather than mechanical forces. Hermeneutics is a human science rather than a natural science; hermeneutics does not try to find laws that are generally applicable, but tries to find what it means to be human. At the center of hermeneutics is the idea that knowledge is always mediated, and we need to know what filter is being used to interpret what we understand about the world. Instead of independent truth, we develop an interconnected circle of meaning with increasing understanding.

Jean-Paul Sartre (1905-1980

In the 20th century, existentialists moved away from Kierkegaard's religious perspective. They became especially prominent after WW II with a call for new human values and respect for individual dignity. For Sartre, (see especially *Being and Nothingness*, 1943/1956) the human self is a process, a striving to become something; the brute fact of existence is prior to any justification or explanation of it. We are totally and radically free; at least internally we can have

[94]Hermeneutics has its critics. Some believe that it originates in a kind of quasi-Kantianism that tries to locate meaning within a limited circle--that would be like staying within the Bible. Sometimes it tries to preserve cultural ideas and meaning even if the facts speak otherwise. Hermeneutics sometimes caricatures science as more positivistic than it is today.

a freedom of attitude and mind. There is nothing that totally determines our actions. We choose our own way of being. There are no excuses; this is a serious responsibility, and not everyone is prepared for it. We can always develop new consciousness; in fact, human reality is essentially consciousness. Being conscious is different than being a thing; a thing is a "being *in* itself," it just is there, being what it is, inert, like a stone. But consciousness, or what Sartre calls "being *for* itself," is what he calls "what is not." This odd locution means that it is consciousness that creates an absence, because absence, or not-being-present, is only conceivable as an act of consciousness. Consciousness divides the fullness of the in-itself into presence and absence. The power of this negative allows possibility; possibility is possible only if we can suspend what is, and what is allows us to think of what might be. Consciousness never simply *is*; it is always distinct from its past, always striving to realize its future possibilities. Humanity is a project; we are what we choose to become but have not yet become, so in human reality being and becoming have the same meaning, because to the extent that we are what we make of ourselves, to be is to do. For Sartre, God does not create us, we create ourselves.

As well as being what we are, we are also conscious of being, which is a problem, since we inevitably bring some kind of meaning alone with our consciousness--we cannot exist independently of this meaning, which is made up. If we could exist without any meaning, like an inanimate object, we might feel better--but we cannot. Or if there was some pre-existing meaning to hold onto, a necessary truth, that would help, but there isn't. So--we cannot do without meaning but there is no single right meaning, and no way to figure out the best meaning; so there is no purpose to reality. But we still need to decide what to do with our lives--this is an absurd predicament.

Things just are; existence has no meaning; there is no reason or justification for being--we can come up with many explanations for why things are here, but he says that the brute fact of the existence of this world in which they are cannot be explained or derived in any way; things just are. He summarizes this as "existence precedes essence." (This is in contrast to religious, eg scholastic, ideas that individual existence is an expression of a general, metaphysical essence or being.) Since God plays no part in this picture, the world has no ultimate sanction in God; Sartre is an atheist. We humans give God existence in our minds; the essence of God is a product of human consciousness, or God is reducible to human consciousness.

For Sartre, there is a distinction between what we know about ourselves and the fact of our existence or being, since being can never be reduced to a form of knowing; knowing is always insufficient for understanding being. In his words, being "overflows" knowledge. Sartre

believes that human consciousness has no essence--but we mistakenly try to unite our existence with ideas about our essence, even though in fact our existence precedes essence--that is, we exist before we can be defined by any concept. He believed that existence defines the essence of an individual; that is, we are what we do--what defines us is the collection of our acts, so we define ourselves by making choices--we are what we will ourselves to be; the essence of a human being is our liberty and freedom of choice. When we act as an aware subject exercising free choice, assuming gthe consequences, we act in a way that he calls ìpour soi,î for oneself, which is contrasted with ìen soi,î or in itself, which means that we act as a mere thing, not authentically. We are free to choose, but we must take the responsibility for the choice; the only compulsion is to make a choice. Then we create a personal essence by living our existence. We choose who we are, and we choose out of nothing, with no good grounds for choice. Moral principles have no existential sanction, according to Sartre; that is, there is nothing in the world that could justify particular values; a radical individual choice is prior to any moral code because of the absolute freedom of consciousness. Here he repeats Kant's categorical imperative.

Because of all this, we have certain emotional predispositions. Sartre thinks we do not like to face the truth of our existence as free beings responsible for making ourselves. We surrender our consciousness and become thing-like instead of conscious. We believe in transcendent entities to justify what we are and what we do. This behavior is not authentic--it is, en soi, acting in bad faith (note: this kind of comment violates Hume's injunction not to try to deduce an "ought" from an "is"). If I adopt a morality or social role that has been devised by others, I am in bad faith--I loose my freedom and become inauthentic if I look for an objective moral order.

Sartre offers two classic examples of bad faith, or the giving up of personal freedom. A man is making a pass at a woman by taking her hand; she does not want to admit what is happening so she keeps talking about high culture and does not remove her hand; she mentally splits it off. The hand has become an inert object, so that she does not need to deal with the reality of the situation. There is a waiter who is too much like a waiter--he is pretending to be a waiter, in too waiterly a way; but he is then what is he is not. Instead of being free and conscious, he makes himself into a robot-like thing. (Note: Both these situations are subject to a variety of other, psychodynamic, explanations besides his---Sartre's ontological explanation is not the most useful one.)

We must face up to things as they are. This is not easy or pleasant, because existence is meaningless, it overflows any attempt to explain it, so we feel superfluous, unnecessary, just here with no reason. The angst is terrible; we have so much responsibility with our freedom, trying to

become what we can be, in the middle of existence with no meaning or value. No wonder we feel fear, worry, dread. We have to just commit ourselves to the project of engaging in the world. Like Kierkegaard, Sartre finds that anxiety is the main way that the brute reality of existence shows itself to us; this is our initial orientation to the world--that is, we do not "have" emotions, rather emotions are the way we experience the world, which is *through* our emotions. We are free, but condemned to make choices, and so filled with anguish, since there is no God to whom we can turn for guidance.

Sartre faces a harsh world with courage, without relying on religion or history to explain it. But how much of what he says is logical, how much is new, and how much is a product of mid-20th century French intellectualism? For example, Sartre has been criticized on the grounds that his doctrines are just general insights into human psychology. His insight on the priority of existence over essence rules out any ontology--any essential structure of existence. Yet, the result of his analysis of the difference between the "for itself" and the "in itself" etc. *is* nothing other than an essential structure of existence. By making consciousness the centerpiece of his ontology, he confers a special ontological status on the traditional metaphysical subject. That is, his system constructs an entity whose possibility it is supposed to exclude from the start.

In his later work, Sartre tried to integrate Marx into his philosophy, and became a confirmed Marxist. Sartre was a fighter in the French Resistance, but he also supported Stalinism--apparently his valuing of free thinking and individual responsibility blinded him. Or we could say that his emphasis on freedom had an opposite pole in his unconscious.

Sartre's contemporary was Camus, whose main theme was courage in the face of the absurdity of life. We are at the mercy of external forces that render our lives absurd. How can we take control and establish a sense of purpose?

(Other important existentialists--Jaspers, Buber.)

Understanding phenomenology is also very useful as a prelude to understanding third force psychology. A brief review; we concentrate on the study of phenomena as the person experiences them; we pay attention to exactly how the phenomenon reveals itself to us, in as much detail and specificity as possible, without manipulating the phenomenon. Try not to have any pre-judgment, bias or orientation (and good luck trying.) Investigate the origin or basis of the phenomenon as it is experienced. Investigate the processes of intuition, reflection and description. Phenomenology rejects the reductionism inherent in the empirical methods of

natural science; instead, phenomenology asks for the significance and relevance of phenomena in the consciousness of the experiencing person.

Edmund Husserl (1859-1938)

Husserl was the founder of modern phenomenology. His work is related to psychology because of his interest in conciousness, in what actually appears to the mind. As Descartes said, we are certain of our own conscious awareness. So this is a good place on which to build our knowledge of reality. Husserl says that as soon as we examine our concious awareness, we find that it is always awareness of something; consciousness cannot exist by itself as an objectless state of mind[95]. In our experience we cannot distinguish between states of consciousness and the objects of consciousness; we can only make this distinction conceptually (Hume said the same thing). Now, Husserl makes an original comment on the old question about whether we can know if the objects of our consciousness exist separately from us, about whether the world exists independently of our awareness of it. Husserl points out that there is no doubt that the objects of our consciousness exist as objects of consciousness *for us*, whatever other ontological status they may have, and therefore we can investigate them as such without any assumptions about their independent existence. We have immediate, direct access to these objects, so we should be able to find out about them without worrying about unanswerable questions, which we can put to one side. It does not matter whether there really is a desk in front of me or not; all we need to do is to study the fact that I take it that there is a desk in a world of objects out there.

Let us then systematically analyze consciousness, understood as its objects, whatever we experience, without concern about whether these objects are objectively as we experience them. An object of consciousness may be a material object or our thoughts and feelings, our memories and ideas, as well as our experience of art and beauty.

Much of Husserlís work was based on Brentano, who said that when we think we are always thinking *about* something. The way we think about things helps to make our ideas what they are. Brentano called this aspect of thinking intentionality; this means the way ideas involve both what we think and how we think about them. If a lecturer makes you bored, Brentano would say that the feeling of boredom is part of how you experience the lecture; the boredom is not something separate from it--this is true regardless of what the lecturer is actually doing. You

[95]The eastern meditative traditions, of course, would disagree with him. Also see Franklin Merrell-Wolff. (1973), *The Philosophy of Consciousness Without an Object.* Julian Press, NY.

might start doodling or looking out of the window even if the lecture get better without your realizing that it is better, because you still have the idea of boredom in your mind that makes you look out of the window. It is the intentionality of your idea about the lecture that makes you look out of the window, not the lecture itself. This means that ideas are not objective, but they have significance according to how we feel about them. Intentionality means the attitude that we bring towards things; intentionality is the relationship between the things we think about and the way in which we think about things. Intentionality means our directedness towards things; it does not have to do with our intentions.

Husserl picked up on this idea of intentionality and developed it into his ideas about phenomenology. The mind is always directed towards objects outside itself. Husserl thought that there is something in the mind that accounts for this. We cannot experience anything except by virtue of directed mental contents; for Husserl, a self-contained, conscious subject is directed towards objects.

Rather than try to be objective about the world, we should try to bracket our assumptions about the world when we have an experience, to try to get past the layers of meanings we already assume; then we can try other meanings, new possibilities. He wants us to study our own experience of ourselves. Try to see things with fresh eyes; try to see reality and our consciousness as the same thing--Husserl called this process reduction, meaning getting in touch with ones own intentionality after we have bracketed out the intentionality of science. This allows us to be more creative in the way we experience things, in just looking, hearing, etc. When we look at a table we should try to see the table as it really appears, in different ways; look at it without assumptions; see colors and shapes without saying "that's a brown square table." In this way we reclaim our own perception. His idea was to find a method that was rigorous but did not need the reduction of experience to its constituents the way that science claims to do. Science purports to be objective about the world, but actually science imposes its attitude of objectivity on the world, which strips any human significance from it. Science brings its own attitude towards what it studies, so science also has intentionality. Let us put the real world in brackets, disconnect our consciousness of it, and turn our attention to the absolute world of experience itself, exploring the its structures.

In phenomenology, consciousness is understood as the place in which we constitute meaning. Phenomenology tries to understand consciousness by understanding the acts of consciousness such as perception, imagination, judgment and feeling. These are the absolute data of consciousness through which we know the world, and we must try to grasp them in their

immediacy, as they are self-given, without introducing interpretations. We cannot study the mind until we separate mental phenomena from our beliefs about the physical world. Let us ìbracketî all reference to external things so that we can experience the pure phenomena themselves--this is called the phenomenal reduction. If I have a fear of flying, I bracket all my knowledge of aeronautical engineering, the theory of flight and the strength of materials, and focus on how it feels to be in my fear, until I arrive at what is purely given in my consciousness.

Husserl seemed to believe that philosophy was the queen of sciences, and was itself a pure science, that is grounded in the absolute certainty that is achieved through a transcendental examination of consciousness by consciousness itself. Consciousness has the power to constitute--or it is composed of--its objects in their capacity as objects, while transcendental consciousness transcends the consciousness of individual objects. Consciousness does not exist as an abstract mental agency or a store of experience; consciousness is defined as the individual's being conscious of something, our experience of an object. Every conscious act intends an object. Reduction allows the study of consciousness by grasping the main images of consciousness. Transcendental reduction leads the person from the phenomenal world of specific experiences to a level of subjectivity that rises above this reality to an integrative level of experience that is unified.

Husserl's approach, which tries to see the world with new eyes, allowed a starting point for existentialists who said that we need to bracket not only science but also what religion and philosophy say about the world. Their interpretation is no better than any other way of seeing things.

Martin Heidegger (1889-1976)

Heidegger was one of Husserl's students; he reacted against Husserlís subject-object focus by asking whether the subject-object relationship is really the best description of our relationship to things. He found that we do not normally relate to things as subjects related to objects; awareness, or consciousness, may not necessarily play a role. He pointed out that if an expert carpenter is using a hammer, the hammer is transparent for him; he is not a subject directed towards the hammer, because he is not thinking about the hammer at all. He can think about something else; hammering just goes on. Heidegger called this everyday skillful coping ìprimordial understanding.î Much human activity is not guided by conscious choices or a state of mind of which we are aware. The carpenter will only notice the hammer if something goes wrong with it; then he will become a problem solver and start thinking about hammers. He calls

the situation when things are a problem, the ìunready to hand.î Philosophers have studied hammers as if they were wooden shafts with metal heads--a substance with properties. This is OK if we want to do physics, but not for daily practical coping.

Heidegger is radical because he believes that the old questions of philosophy--such as how can I as a subject know the world of objects, and can I be certain about what I know, and if so on what grounds can I be certain--are not really the most important questions we can ask. We are not detached from external reality as if we were spectators, as if the world was ìout there,î different from ourselves,so that we have to try to relate to it. We are an integral part of it, being in it, dealing with it. We are not observing subjects who try to know the world, we are beings inseparable from a world of being. Our mental contents can only correspond to what is out there, on a shared background of skills and practices that are not themselves mental contents.

We cannot separate knowledge from experience; they are both part of the same reality; we cannot have an experience without knowing about it, and we cannot have knowledge without experiencing the knowledge. In fact we know without realizing it--we develop beliefs and attitudes without thinking about them.

Heidegger shifted from a focus on consciousness to a focus on being; being itself is a source of wonder; what is important is not so much our experience of reality but our existence itself. He argued that through western history we have been bound to beings as people, but we have become estranged from Being itself, as living. His world for Being is da-sein--he uses this odd locution to indicate that he is not looking into *a* being, but Being itself. There are many beings but only one Being, which discloses itself in and through the little beings--there is only one Being[96]. He thought that we are estranged from our own being, in the sense of being as living. Psychology should study people's being-in-the-world, and how we are alienated from our own being. Phenomenology is a means of returning to Being; it allows phenomena to be understood if we do not force them into preconceived structures. Dasein manifests itself through self-awareness of our "throwness," which means that dasein finds itself in the world with no explanation; it is just thrown into the world. Dasein has to accept the fact of its throwness, its being in the world, without expecting an answer to how and why questions.

There are two possible responses to this situation; the authentic and the inauthentic. The

[96]Is it OK to substitute the word God for Being here? Maybe, maybe not---he rejects the God of the philosophers. According to Heidegger, we need a new vision of God, which will make itself known by means of the new spokesmen for truth, the poets.

inauthentic response is to retreat into the crowd and escape from dread and anguish by doing what society tells us to do and not asking for the meaning of life. Authentic responses recognize dread and nothingness and surrender to death rather than running away from it. Dread arises from the realization that dasein is not immortal, that it will cease to have self-awareness after death. So dasein is Being-to-death; the end of dasein is death or nothingness. Once we accept this and face it, we live authentically. We do this for ourselves; there is no eternal Thou. What is Being as such if it ends in nothingness? His answer is nothing. Everything that philosophers have investigated under the heading of Being was not Being but beings; beings are recognizable because they seem distinct from nothing, just as we see mountains because of the nothing (valley) between them. In the last analysis, Heidegger's world is cold and lonely[97].

Heidegger did not refer to an individual or to consciousness, because these terms imply an object. He categorizes human existence in three ways: 1. In terms of moods; people do not have moods, they are moods--we are joy or rage. 2. In terms of understanding; our existence should be about the search for understanding our being; we should become authentic, which means refusing to take things for granted, refusing to act as if things are already understood. To be authentic we also have to adjust to the idea of death; anxiety is the result of our unwillingness to confront death (this is an astonishingly naive view of anxiety). By accepting that we are finite we penetrate to the core of our existence. 3. Speech, as language, provides the vehicle for our knowledge of ourselves.

Existentialists ask how we are to live in this irrational, meaningless world; do we do it like Kierkegaard, with faith, or do we search for humanistic beliefs to make life meaningful? In general, the existentialists regard most other philosophers as either wasting time defending intellectual propositions about language and logic, which are no help in dealing with our difficulties, or as refusing to face the real problems that confront us. But the critique is that they have abdicated the main quest of philosophy, which is to rationally examine our world. They are simply distressing poets, not serious thinkers. But is the world susceptible to rational examination, after all that has happened? Or is the universe just unintelligible? Anyway, how is all this relevant to psychology and psychotherapy?

[97]There are various criticisms of Heidegger. He says that western thought has been too controlled by ways of thinking, either metaphysical or rational, and consequently we don't have a right relationship to Being, so we can become nihilistic. So, lets get rid of the tradition of western thought. This is not a very good idea. We need rationality without prejudice and we need to see things as they are. As it happens, philosophy has not been particularly important to western thought. Science does very well without it. Several philosophers have been concerned with Being itself; they just call it God. His ideas about language are particularly strange, especially the idea that it is the language that speaks, not the person--literary theorists like this idea, since it seems to provide a framework that is prior to subjectivity; but language does not speak; people speak.

Existential-phenomenological psychology applies these principles in the therapeutic setting. The person is an individual existing as a being-in-the-world; each existence is unique; we cannot generalize from commonalties to one person; we have to deal with individual experience. We are all trying to deal with alienation, loneliness and anxiety. Phenomenology is the method that allows the examination of the experiencing individual. Thus Binswanger's Dasein-analyse tries to apprehend the person's world as it is experienced by the person in the present, as the individual defines meaning, which is where we must meet the person. Early childhood difficulties are important only to the extent that they exist in the present, affecting meaning here and now. Phenomenology allows us to discover the essential self of the person. The humanistic tradition in psychology emphases this kind of individual existence and variability, in contrast to behaviorism.

Two of the major figures in this tradition are Carl Rogers and Abraham Maslow, who both rejected behaviorism, and also offered an alternative to psychoanalysis. Humanistic psychologists are so called because they believe that the values that guide human action must be found within the nature of human and natural reality itself, according to Maslow. Behaviorism treats people as things and ignores their subjectivity, consciousness and free will; this is misguided, or at best only a partial view of people. Our autonomy and our free will are important. Instead of Hull's robot view of people, humanistic psychology treats people as aware, with choices, as intentional.

In the 1940's, Rogers developed his client-centered psychotherapy with soldiers returning from the war. This is basically a phenomenological approach; the therapist tries to enter the worldview of the client and help the client to work through his or her problems in order to live the life he or she wants to live. The emphasis on empathy and trying to understand the inner world of the client is close to phenomenology, which is the study of subjective experience. We must interact person to person, at an intensely personal level, sensing how the client feels as he or she moves towards self acceptance, so the client becomes increasingly aware of authentic feelings and experiences. For this to happen, we must accept the client unconditionally. This attitude played a big role in developing counseling psychology after the war. Rogers and Skinner had a series of debates about their points of view in 1956.

Rogers believed that personal beliefs, values and intentions govern behavior, whereas behaviorism limits itself to objectivity and so limits itself within a range of techniques. It treats people like animals or even objects, not as subjects in their own right. In exact contradiction to

Skinner, Rogers emphasizes our experience of freedom, even if determinism is going on somewhere else. Choice is very important to him.

Charlotte B¸hler was an early pioneer and collaborator of Rogers; originally from Berlin, she was a refugee in the USA, ending up in LA. She emphasized that healthy growth is purposive, and that ideally there is a harmonious balance of tendencies in the personality for the satisfaction of needs, for adaptation, creativity and internal order.

Maslow was probably the leading humanistic psychologist and theorist. He began his career as an experimental psychologist, but turned to the study of creativity by studying creative people. He decided that they are moved by needs that are dormant and unrealized in the majority of people. He called these people self-actualizers, since they actualized, or made real, their creativity, whereas most people are preoccupied with needs for food, shelter and safety. Maslow thought that everyone has latent creative potential but it is inhibited by society, which restrains its expression and prevents it being realized. The problem is how to allow people to realize their potential--same idea as Rogers. In 1961 he and his colleagues formed the *Journal of Humanistic Psychology*, then the Association for Humanistic Psychology.

In the 1960's the value of adaptation to society was increasingly questioned. Freud had said that we pay the price for being civilized by being a bit neurotic. The Putneys attacked the idea of conformity in *The Adjusted American,* 1964. This book is about the problem of having to conform to cultural patterns that cause problems; there is no normal neurosis, as Freud had said; normalcy produces stunting of growth; we do not satisfy our real needs in our culture; autonomy is preferable; we must make our own choices in the light of our needs. Maslow agreed with this attitude, and was anti-adjustment; he said that self actualization is more important. Rogers also agreed; he rejected the idea of mental illness and called people clients instead of patients, and believed that they were in therapy because they could not easily feel and express their true feelings. We should always be developing; we should treasure our feelings, be open to change; growth is a moral end in itself. Your feelings should be an authentic expression of who you are; share them freely with others; go with the flow.

Humanistic psychology was essentially romantic, valuing feeling and intuition, questioning the authority of reason.

The other thing that was happening in the 1960's was the anti-psychiatry movement, exemplified by Szasz, in his *Myth of Mental Illness*. He believed that to make mental illness analogous to

physical illness is a mistake, a bad metaphor. He draws on Ryle's analysis of mind, which argues that the mind is a mythic ghost in the machine. If there is no ghost in the human machine, there is no mind to become ill. Ryle said that we falsely attribute behaviors to an inner ghost who causes them; Szasz says that when we find behavior annoying we think the ghost is ill and needs therapy. Mental illness is not something we have, it is something we do or are. Psychiatric labels are stigmatizing; they give power to psychiatrists and psychologists; people get locked up even though they have not committed a crime; they are given drugs against their will. This is a crime against humanity. The concept of mental illness undermines human freedom, belief in individual responsibility, and legal ideas of guilt and innocence. We make people helpless, not free agents by calling them mentally ill. If the brain is diseased, this is a genuine bodily illness, but most of what we call mental illness is actually a problem of living; these are real, and people need help for them, but as a learning process, not with medications. This was all very controversial; he was accused of ignoring the suffering of the mentally ill. But he also helped to bring about strict commitment laws.

The humanistic psychologists did not all reject behaviorism entirely, since some of them thought it had a limited usefulness. But the linguists, especially Chomsky, rejected behaviorism even more clearly. Language has always been a problem for behaviorists or any kind of mechanistic psychology, just as they cannot deal well with questions of meaning. Language seems to be one way in which humans and animals are different, so how generalizable are the principles of learning derived from animals? Skinner tried to show that language can be explained on the grounds of learning theory, and called language verbal behavior. This upset Chomsky, who attacked the behaviorist view. In Chomskyís review of Skinner's book *Verbal Behavior* in 1959 (In *Readings in the psychology of language*, Ed. Jakobovits and Miron, Prentice-Hall), he said that Skinner's idea was mythology. Chomsky said that Skinner's technical terms, such as stimulus, response, reinforcement etc., are well defined in animal experiments but they do not apply to language development, and in any case they cannot be extended to human behavior without serious modification, at which point they become so vague that they are no better than traditional ideas about language. For example, when Skinner talks about a stimulus in the past that is controlling our current behavior, this is far removed from bar-pressing behavior in the present in rats--we cannot say that the remote stimulus in our past causes the present result. Also, it is hard for behaviorists to define the word stimulus--do they mean something purely physical regardless of its effects on behavior, or do they only mean something that has an effect on behavior? If the former, then few stimuli affect behavior, so behavior is unlawful and does not seem to depend on stimuli alone; if the latter, then behavior is lawful by definition, because the behaviorist is only considering stimuli that do affect behavior. So Skinner is basically

equivocating. It is empty to say that verbal behavior is always under stimulus control, since given a response we can *always* find a relevant stimulus. Whenever we look at something and say something, some property of the object can be found that "controls" the response, but we can respond by saying anything in the world! No prediction is involved, and no control is found--there is no science here.

"Reinforcement" is another vague word; we may experience no immediate rewarding response when we think, or the reward can come even posthumously (the writer who writes for posterity) or it may never come. Chomsky believes that no behavioral approach can explain the complexities of language. We can generate an infinite number of sentences, and we will only understand this when we understand the mental structures that give us the rules of grammar and which underlie speaking and hearing. If we ignore these inner rules we will not explain language. Chomsky convinced most people that S-R theories are inadequate to explain human language. He advances a nativist theory of language acquisition that says that children have an innate language acquisition device that guides the learning of their local language between the ages of 2 and 12. Chomsky, like Descartes, believes that language is uniquely human. He is a rationalist, in a way a Cartesian; Chomsky believes in innate ideas, and that language is the organ by which reason expresses itself.

Chomskyís ideas had great influence on psycholinguistics; people thought that he was right and Skinner was wrong, so psychologists turned to a study of language. They realized that the mind exists. Chomsky was one of the people who brought back the mind after Watson had exiled it in 1913. The idea that language is rule governed helped to develop the later information processing theories that claim that all behavior is rule governed.

Meanwhile, in the 1960's, Kuhn (*The Structure of Scientific Revolutions*) became popular, and everyone wanted to replace behaviorism with the revolution of cognitive psychology. Kuhn was a historian who described the history of science as a repeating cycle of stages, each with its own worldview of which the scientists themselves may not be aware. Science is social, there is a community of scientists who are not isolated; they have values and ideals without realizing it, that they take for granted. Scientists have shared norms that constitute normal science. Scientists must agree on their goals, their basic explanations of phenomena and their methods--this is their paradigm, which gives them a unified standpoint, and when they do normal science they take the paradigm for granted. But paradigms break down when they do not work well, and they are periodically replaced by revolutions rather than gradual change--eg, Ptolemy

to Copernicus. It is still not clear [at least to me] whether he is right or not; some people do not think that science proceeds by revolution, and Kuhn backed away from this claim himself later--but there is no doubt that many influences besides technical ones affect scientific methods.

It could be that the 1960's were just a revolutionary time, and Kuhn provided the rationale for a revolution in psychology against behaviorism. This move could also have been a gradual evolution. In any case, it finally became clear that the laws of learning in rats and pigeons do not all generalize to humans, and ethologists showed that there are innate factors in animal behavior, presumably based in evolution. One book that was a turning point was by a couple, the Brelands, who wrote "*The Misbehavior of Animals*," in 1961, which showed that animals did not always behave the way Skinner said they should, because their animals had instincts that overruled learned behavior. They realized that behaviorists had been wrong on several counts; animals are *not* a tabula rasa, species differences *are* significant, and any response *cannot* be conditioned to any stimulus. Garcia and associates confirmed these findings; they let rats drink a liquid that made them sick. The rats seemed to know that the liquid was the problem whenever and wherever it was given, since they did not react to the place or any other stimuli that were present at the time. The rats avoided the *liquid*, even if it was presented much later, regardless of the place they were in. This is probably an evolutionary device to avoid tainted food and water, so evolution affects learning. This research was so unpopular that Garcia could not get it published in the major journal of animal behavior!

It is clear that evolutionary endowment does limit what an animal can learn. This contradicts the behaviorists' assumption of a *tabula rasa* organism, and it contradicts the idea of species-general laws of learning (these laws are not general to all species). Behaviorism ignored the contribution of evolution to behavior. Behaviorists had to deny this because of the doctrine of peripheralism, which says that everything is determined peripherally, by sense organs, since there are no central processes--the brain just passively connects S and R; if an organism can detect a stimulus, the (false) assumption was that it would respond to it. But there is central control of behavior, that is at least in part hereditary--not to mention archetypal.

To re-cap: Behavioralism assumes that consciousness is of little or no importance in the explanation of behavior; the motor theory of consciousness and neorealism also assume that consciousness is an epiphenomenon that simply reports behavior but does not determine it. Dewey and the functionalists believed that the determinants of behavior are in the environment and in physiology; consciousness only reports what is going on. In this way, psychology is the study of behavior and not consciousness; learning theory will discover the causes of behavior

because reinforcers are automatic; in Thorndike's words, reward automatically "stamps in" an S-R connection; there is no consciousness that decides what to do with a stimulus--we do not have to understand the environment to have our behavior modified. When we report environmental contingencies, we have simply observed what made us change our behavior; it was not our consciousness that caused the behavior to change.

This is called learning without awareness; there was an experiment by Greenspoon (1955) that led to what was called the Greenspoon effect. He put a subject/client in a room with the researcher-therapist who reinforced every plural noun the subject said with "um-hum"--this reinforced certain patient behaviors--the use of plural nouns-- and tended to extinguish what the therapist ignored. After a while, the therapist started to extinguish the subjectís responses by saying nothing when plural nouns are mentioned. At the end of the session, only 10 of 75 subjects realized that their behavior had been modeled in this way. Among the other 65 subjects, plural nouns increased in the training phase and decreased in the extinction phase, as operant theory predicts, with no awareness of the connection between plural nouns and reinforcement.

This learning-without-awareness result was challenged in the 1960's by people who realized that the method was misleading; for example, a subject might be reinforced when he said apples and pears because it seemed that any *fruit* name was being reinforced rather than plural nouns. But when the subject told this hypothesis to the experimenter he would be called unaware because he did not realize that *all* plural nouns were being reinforced.

The situation in behaviorism became confused by the end of the 1960's. Doubt was cast on the automatic action of reinforcers, and research was carried out that showed that awareness is essential to human learning. Gradually, behaviorism lost its glitter. It had never really disappeared, but now it came into the foreground in two flavors; as information processing, which stayed within the behavioral tradition but used artificial intelligence ideas to produce a new language for behavioral models, and as structuralism, which was a more radical break with behaviorism and is more like European continental philosophy.

Structuralism

Structuralim was the first type of cognitive psychology to appear. (This is not Titchener's structuralism, although the name is the same, which is confusing.) The hope of structuralism was to develop a unifying paradigm for all social sciences; the idea is that any human behavior, individual or social, can be explained by reference to abstract structures that may be logical or

mathematical in nature. de Saussurre founded this field; he was a linguist who said that language should be regarded as a structure independent of the things that it refers to; an individual is a complex of meanings woven together by language; language speaks us. What makes meaning is the way words relate to each other; the word and the idea or concept that the word refers to are only related in an arbitrary way. There is no natural relationship between the word "dog" (the signifier) and the actual animal that is signified; "dog" does not mean dog because it conveys the natural dogginess of a dog; only the system of language we speak gives the sign its meaning. The word for dog might just as well be hephalump, since what is actually signified, the dog itself, is not part of the system--the connection between name and signified is just conventional. The sound of a word is only meaningful because it is different than other sounds. Words are given meaning because of the way they relate to other words, not from the way they relate to what they point to. "Dog" is meaningful because it is different than other words such as ìcat.î This means that meaning is not just a matter of the individual choice of the person speaking; we don't realize how the system of language we are using makes our words have meaning by its structure. Meaning is not what we think we mean but is the way the system works. This undermines the existentialist idea that we are free to make our own meaning. Who you are is determined by language; our ideas and beliefs depend on the larger system of thinking, which is a product of language. This idea also undermines empiricism.

Language has an abstract structure (*langue*) and concrete manifestations (*parole*), just as there are rules of chess that are embodied in any game, but the game is not the rules.

The leading psychological structuralist was Piaget, who said that at different stages of development the child's thought is controlled by different systems of logical structure. Freud was an early structuralist, in a way. Chomsky is also a structuralist, since he tries to explain language in terms of its formal grammatical structure. So is Levi-Strauss; he applied structural linguistics to culture as a whole; he analyzed the similarities between cultures in terms of similar structures. LÈvi-Strauss said that culture is a structure that works like a language--culture organizes things into patterns that make up a logical structure. However, he based this idea on non-industrial cultures, mostly isolated Indian tribes in Brazil--but modern culture is not so structured. He thought that cultures express sets of rules or systems that are symbolized in myths that live through people, unknown to them--mythemes are in charge, and they that allow people to deal with problems such as death or illness. These structures express the basic unconscious structures of the mind, or how we categorize the world. You may not know how your culture is structured even though you are in it and behave according to its rules. Our thinking is a product of our culture and not the other way round. Examplesof structures are kinship systems, rules

about who you can and cannot marry, or customs about how we use certain foods and not others. These are organized just like phonemic (a phoneme is a small unit of speech) systems in language--the food rules are called gustemes, analogous to phonemes. Each rule in isolation does not make much sense, but it does as part of a whole system.

LÈvi-Straussí critics accused him of ignoring history and of idealizing tribal cultures. His supporters said he discovered evidence about how meaning works in society that reveals clues about the mind, because when you put together all of the systems of meaning in a culture, you have the structures of the human mind. The logic of the structures themselves determines behavior. For the existentialist, meaning is consciously determined by the individual, whereas for the structuralist meaning is built into the system, such as a system of language or culture, and the meaning of an idea depends on its logical relationship to the other ideas in the same system. Everything is fixed at the level of the system. Lets get rid of any silly humanistic ideas about personal freedom.

de Saussure's work was taken further by Lacan (1901-1981), who was also a Freudian, so he brought these two systems of thought together.

Michel Foucault (1926-1984)

Foucault began as a structuralist, trying to discern how knowledge has been structured through langauge, and a historian, trying to discover how knowledge took shape during various periods of history, and . He did this by focusing on unstated assumptions at different times--he believed that each historical period has its *a priori*, or its episteme, its idea of true knowledge, or some ideas that controls knowledge. Each era has its distinct structures of thought, and sets of concepts (note: this is wrong; thought is not limited by the available concepts--new and radical concepts arise all the time and coexist with popular ones). Eg, during the Renaissance, people thought that words told the truth, or contained the truth, but in the 17th century words were seen as just pointing to the truth. This means that knowledge does not reflect the way things are, but forms a system that makes people think that what Knowledge says is really true. (Note; this too is wrong; clearly, historical periods do not think, people do; he extrapolates by assuming that one opinion, of one author, represents the whole period; usually there are other ideas around. Who says that all people in a historical period think the same way? Don't some people think differently? What makes periods transition from one to the next? Is there a bugle that says "now change your thinking"?)

For Foucault, thinking does not reflect the structure of the mind, as LÈvi-Strauss had said, but thinking reflects power structures (note: is this really true?) Whenever you have knowledge you have power exerting itself; the power of knowledge is repressive; it forces people to behave in particular ways. Society controls people by setting up certain ideas as true; power makes us accept some ideas and reject others--power uses knowledge to control people. During the Enlightenment, people were excited about reason and freedom, but also this is when mental institutions and locking up insane people were invented; people were locked up if they didnít live up to social standards of reason. (Note: this is a completely ridiculous argument that ignores what we know about the psychology and biology of mental illness, and the suffering it produces--as if "history " is imposing this label on people who are really perfectly fine. What about all the mentally ill people before reason locked them up? What were they the products of?) Foucault says that the ideas of freedom and reason were invented to exert social control over people who behave differently than the way power is structured in society; these ideas are an excuse to lock up certain people. We define ourselves as sane by contrast to those we have locked up as insane--this did happen in the old USSR. (This is called ìotheringî by Simone de Beauvoir.) We are made different, we are not born different from others; we "other" women, homosexuals, anyone who is different.

For Foucault, knowledge is about power, not truth. If someone comes up with an idea that is considered to be great, and changes peoples' thinking, this only happens because that idea was needed at that time; the great thinkers were not so great; the idea was invented to make the repressive knowledge of reason and freedom more acceptable. He recommended small groups structuring knowledge in several ways, instead of one big group. He finally became less of a structuralist as he realized that structuralism's tendency to see things as one big whole might itself be repressive.

Foucault also looked at how power operates in social structures; we are constituted within the discourses of institutions that structure social life. (Note: but what is this power and who has it? It's like a God term for him that explains everything. If power is everything, it is a useless idea. No one possesses it--his power has no subject; this is a metaphysics of power.)

It turns out (Stewart p. 365) that Foucault is a poor historian who valued his intuitions and ideas more than the facts, and was more dazzling than correct. He had popular success because he seemed to represent post-modern thinking. He tries to challenge the notion of subjectivity, or sense that we are conscious, willing agents, and replace this with a kind of historical idealism that assumes that knowledge is the driving force in history. But everything that happens is not

necessarily a product of history.

Structuralists continue a long (Platonic, Cartesian) attempt to describe the transcendent human mind. One major structure is language; for language philosophers such as Lacan, it is not we who speak language but language who speaks us (an evidently ridiculous idea, but it caught on.) The idea is that everything we do is fixed at the level of the system of language that predetermines what we say with its scripts; there are no individuals expressing rational independent thought; language constitutes reality for us; we don't constitute reality with our use of language. But things gradually became a bit too structured; there is no room to move. An attack began on grand theories. Now we have post-structuralism, and structuralism is passÈ. Totalizing theories have gone.

Derrida was one of the first people to get rid of the idea that structuralism has answered all existing questions. Instead of building structures, he set out to "deconstruct" texts and language; deconstruction means that we take apart the text to show how what is written is built up on assumptions that cannot be true; eg, the assumption that the meaning of what is written is limited by the intention of the speaker--in fact, the text might also say something else. Language does not have a fixed, stable meaning. Things are not as solid as the structuralists had said; the hidden structures that are supposed to determine the nature of things are only metaphysical constructs. Post-structuralists reject oppositional thinking like surface and depth, conscious and unconscious, which are the basic dualisms of structuralist thought. de Saussure thought that the structure of language fixed its meaning, and that we are rational subjects who guarantee its meaning. But according to deconstructionists, the relationship between signifier and signified is never fixed, but always deferred; meaning slips away; we construct meaning when we look at a text. The context of words temporarily seems to fix their meaning, but this is an illusion, and so is the idea of a rational subject. Deconstruction tries to get rid of the idea of fixed meaning and highlight the endless play of language.

All notions of producing philosophical truths are mistaken and misguided, according to Derrida; there are no absolute truths; rather than tell the truth, philosophy has constructed meaning by privileging some terms, like male, and suppressing and excluding and marginalizing other terms, like female. Feminist thought developed these ideas further; some argue that we need a new language that has to be invented to rethink philosophy, since its too riddled with masculine values.

Post -structuralism dismisses most of western philosophy. It is useful in thinking about the

world if you agree that philosophical rightness is part of a discourse of dominance exercised by Euro-centric white males over subordinate groups such as women and minorities.

But to address Derrida; it is not always easy to say what you mean, but we can try. We have to try to be understood. He says that there is no unconditional knowledge, thought has no closure, no unity of thought, etc.--nothing new here. Deconstruction is just another name for careful analysis of a text, and thinking about it.

Much postmodernism is an intellectual dead end that seems to arise out of the fact that philosophers and intellectuals as a whole are irrelevant in our society; the people who make the difference (Mother Teresa, Mrs. Pankhurst, Bishop Tutu, Nelson Mandela, ML King, etc.), never read postmodernism and wouldn't agree with it if they had. The idea that no particular idea or cultural tradition or concept of human nature has any more rational justification than any other is totally irrational. There must be discussion of rival theories of human nature, taking into account the ideologies that are present; we can think about and evaluate ideologies. It is possible to distinguish what someone is saying from why he or she is saying it, and from the axe that is being ground. Anyway, the motivation for offering an idea may be irrelevant to the idea itself, which can be discussed on its own merits. Who says that the postmodernists have some special way of justifying what *they* say? What justifies postmodernism? How can we avoid or opt out of reasoning and making judgments? Not all ideas are the product of one super-powerful group.

Back to the information processing aspect of cognitive psychology, which tries to make psychology a branch of computer science. Cognitive science (beginning in the 60's and 70's) was the result of a merger of artificial intelligence and computer simulation psychology. The idea is that all information processing systems, whether made of organic tissue or silicon, operate according to the same principles, *and belong to the same field of study*; the paradigm of information processing. The proponents thought they had a new revolution going--see *Cognitive Psychology and Information Processing*, 1979, by Lachman et. al., which claims this as a Kuhnian leap.

People are information processing devices that receive input from the environment as perception, process the information as thinking, and act on the result, as behavior. This became an influential way of thinking about cognitive psychology--human cognitive processes work like a computer. S becomes input, R becomes output, and any mediation between S and R is called processing. *L'homme machine* was back again. Mediation between S and R was back again. There was even no need to invent a new language; psychologist talked about retrieval, coding,

pattern recognition; it all sounded very scientific, and physics envy was replaced with computer envy. Thinking is the processing of stored information. But all these terms are really convenient fictions; people believe that informational processes are going on but no one can see these processes. The terms are just defined operationally. It is clear that information processing paradigms are really a latter-day form of behaviorism--just the use of language like "cognitive behavior" tells us that.

The cognitive scientists proposed a solution to the mind-body problem called functionalism; here the basic idea is that the relation of mind to body is that of program to computer. The brain is wetware that does the same operations as silicon chips. Mind is a set of computer programs running all the time. Now there is no need for explanations based on teleology or any meaning that is non-material. There is no ghost in the machine, no soul, just mechanistic processing. At least we get our mind back.

Cognitive processes are adaptive--a functionalist view.

There are many doubts about the computational approach to psychology; the Chinese room experiment of John Searle was a thought experiment in which you sit in a room with two slots in the wall; out of one slot into the room comes paper with Chinese writing on it; you don't know Chinese, but you have a book that tells you how to copy another Chinese symbol in response to each one that comes in. You pass this out of the room using the other slot. Unknown to you, Chinese psychologists are feeding questions in one end and getting answers out of the other slot, so from their point of view the "machine" that is in the room understands Chinese, since they can ask it questions and get meaningful answers. This passes the Turing test of fooling the experimenter into thinking he is dealing with a person. But you understand nothing; you just write a meaningless image in response to another meaningless image. Similarly, the computer does not understand what it is processing. It just accepts input and generates output, even though it seems to be playing chess or whatever. Searle also pointed out that we computer -model storms and nuclear explosions, but they don't actually happen in the computer. But cognitive scientists claim that when they simulate intelligence, the machine really is intelligent. This is an absurd distinction--there is a difference between simulation and reality.

The next important step was connectionism, which is based on parallel processing architecture computers that contain multiple connected processors, rather than just one CPU. These machines can learn; this excited some cognitive scientists. The interconnected processors are like neurons in their neural nets.

The challenge posed by these ideas is to our concept of human nature. Socrates had said that we are only acting virtuously if we know why we are acting virtuously. It's not enough to just be good; we have to know why we choose good over evil. But what is the set of rules you follow in deciding how to behave? If we know the rules, we can formulate them for anyone. Now if the mind is a set of rules, we can try to find the rules of behavior. If we find these rules, we can program the computer to follow them.

Now what exactly is a rule-governed behavior? The law of gravity governs the movement of objects as they fall; but the object does not *follow* a rule, even though its motion is *governed* by a rule--the object is not calculating as it falls. But computers *do* follow rules of their programs to arrive at their outputs. Connectionist cognitive scientists think that people are rule governed but do not follow rules. Do you behave the way you do consciously, following rules--for example the rules of grammar as you speak-- or is your behavior governed by rules you are not aware of?

Interestingly, Skinner was critical of cognitive science because he thought that the idea of internal states that are not observable was magical, as if there is an inner person doing things, or as if there are internal representations--this is a copy theory of perception, which he is against. He believed in perceptual realism; what is seen is a presentation, not a representation; there is no storage of copies in a memory from which they are retrieved, and no inner person making decisions on the basis of stored representations of the environment. We have just learned to behave in various ways. For him, cognitive science invents a fictitious level of discourse between brain information processing and consciousness; computers are not analogous to human organisms. Finally, something about which we can agree with Skinner !

Now, a dialogue about why parapsychology and transpersonal psychology--the so-called fourth force--are ignored by mainstream psychology.

Mainstream psychology regards transpersonal psychology as a pseudo-science because it violates the substantive content of science; they say to the transpersonalist:

Your methods may be fine, as rigorous as ours. But method will not save you if you are studying something that we know cannot exist.

Is this a way to advance knowlege? It's Galileo all over again.

Sorry, you are studying something we have already decided is not within the boundaries that science accepts. Transpersonal psychology is just not the kind of thing respectable scientists do; we cannot understand ordinary processes such as thinking, perception and language yet, so please don't ask us about telepathy and psi phenomena. We have to focus on current problems and progress one step at a time.

Why won't you look through the telescope?

We know there is nothing to see. You've painted dots on the lens. We are committed to naturalism and materialism. We couldn't function without them; don't rock the boat, it's too upsetting.

You are in denial.

We are keeping up with the times; God is dead; this is the age of science. Now we can ask psychology and science in general about how to live our lives.

Science does not tell us about values and offers no moral guidance about living; it does not tell us what to learn, only how we learn.

Agreed. But occult sciences are actually promoting religious values, using the methods of science to disguise that fact. You practitioners of transpersonal psychology have all kinds of beliefs and values that you foster and promote.

You mainstreamers do the same thing on Madison Avenue and in industrial and educational psychology.

Embarrassing, but true; we are on the edge of science and values.

So are we.

Exeunt omnes.

Just the idea that psychology can be reduced to biology is an idea called reductionism, part of the postivist notion that there is a unity of science--all sciences can be arranged in a heirarchy in which each can be reduced to a more basic one, with Queen Physics as the most basic.

Sociology reduces to psychology which reduces to neurophysiology which reduces to chemistry, etc. But Donald Davidson (*Essays on actions and events*, 1980) argued against this idea, which he calls anomolous monism. He believes in a form of materialism, and that every mental event is *identical* with a brain event. But he points out that for psychology to be reduced to neurophysiology, psychological concepts, not just psychological events, must correspond to neurophysiological concepts. Now, we believe that people are rational, and have desires and beliefs--we infer rationality and coherence in people, unless they are psychotic; but there are no such echoes in physical theory, which does not have ideas, desires and beliefs etc. We organize our speech about mental events differently than the way that physiologists do. Therefore we can only have rough correlations between psychology and physical phenomenon. Hence psychology is autonomous and cannot be reduced to biology.

But can psychology be any kind of science? Perhaps, since we cannot map psychological ideas onto neurophysiology, psychological ideas (of folk psychology, such as intention, will) are scientifically false, like Ptolemaic astronomy; we should get rid of them and replace them with neurophysiological concepts (see the Churchlands, 1985/6). Letís just talk about brain events and drop psychology language. This is serious scientism; let's not talk about hopes, beliefs, and so on, because they are not scientific ideas. This is eliminative materialism; it is a paint-seller's view of art; but the aesthetics of the painting are independent of the properties of paint! Because we cannot map the aesthetics of the painting onto paint chemistry, should we give up aesthetics? While we are at it, we can give up law, morality, politics, and most of what makes us tick.

The psychologies that try to understand intention are like aesthetics; they are not a science; we cannot get rid of them, and we cannot build our lives on brain chemistry alone. So psychology is not a natural science; physics is the wrong model for psychology. We are too individual to try to develop general laws. There is a big difference between form and content; people who are thinking look the same on a series of brain scans even if the content of their thoughts is very different.

So is psychology a purely hermeneutic discipline, interpreting rather than explaining? No; it is very interesting to understand how the brain produces dreams, even though each dream has its own meaning to the person!

Do we have immaterial souls? Is consciousness non-material? Are there really two substances, mind and body, or are they both aspects of a one? Are brain states the same as mental states?

Or is the whole question, for our limited capacities, like trying to teach my dog algebra?

History 6

Myers, Janet, Charcot, Freud, Breuer

Lecture notes of Dr. Lionel Corbett: private distribution only

Precursors of Freudís Idea of the Unconscious

The notion of of unconscious mental processes was not a new one, but our debt to Freud is that he brought the idea of the unconscious to the forefront of clinical and cultural thought. The Bible stresses the importance of dreams, and in Homerís work dreams are sent by the gods to give messages and instill fears in the mind. Homer also stresses affect as ruling the personality.

It helps us to understand Freud and psychoanalysis if we remember that psychoanalysis is grounded in the idea of active mental processes, but not particularly in empiricism. Freud is very much in the German tradition of investigating the mind, as we saw with thinkers like Kant and Leibniz. The Germans saw the mind as generating and structuring experience, for example in the form of Kant's categories. According to this tradition we can only understand the mind by studying its inherent activity. This tradition contrasts with British empiricism, which saw the mind as passive; for this tradition, experience is the only source of knowledge; the mind just works with what is out there by associating to it. This again contrasts with the French sensationalist view of the mind as not really necessary; for de Condillac {18th cent) et al., mental activity is reduced to sensory mechanisms and sensory experience--mind is just a receptor for sensory input; mind = senses.

It is important to consider the cultural ground out of which psychoanalysis grew. The Enlightenment philosophers had made promises that were not kept; a new society based on rational scientific principles did not materialize. At the beginning of the 19th. century a good deal of disillusionment with scientific rationalism had set in. Not only had the French Revolution (1789) not lived up to its utopian principles[98], but the ìprogressî of the developing

[98]The revolutionaries committed themselves to democracy, abolished slavery, introduced measures to assist poor people, and tried to make the ideas of dignity, equality and fraternity part of the fabric of daily life. But the revolution ended in military despotism and the loss of many of these liberties.

Industrial Revolution[99] produced great humanitarian difficulties. In reaction to the Enlightenment, the Romantics[100] developed a concept of humanity and nature as organic rather than mechanical; people were seen as creative spirits driven by irrational passions rather than mechanical systems. Intuition and feeling become more important than scientific reasoning. M.H. Abrams (1973, *Natural Supernaturalism*, Norton, NY) suggested that the Romantics tried to secularize traditional theological ideas and ways of thinking, to ìnaturalize the supernatural and humanize the divineî (p. 68). They tried to preserve emotionally important religious themes and values without the old religious cosmology. This meant that they had to get rid of the supernatural trappings of religion while developing new, worldly modes of salvation and theodicy (the attempt to justify God in the face of evil), and new understandings of suffering. The Romantics were interested in distinguishing the realm of meaning, or the everyday human realm, from the scientific realm of explanation. The human hunger for spirituality was simply not satisfied by the new, rational-empirical approaches to knowledge.

Kirschner (1996, *The Religious and Romantic Origins of Psychoanalyis*[101], Harvard Univ. Press) suggests that the secularization of traditional religious thinking had four characteristics. God was either eliminated or relegated to a relatively unimportant position, so that humanity and the world of nature. The mind or the self appropriated the powers of God and the dynamics of his self-unfolding. The absolute is no longer transcendent, but is now in our consciousness as the Self (obviously this idea is still with us in Jungís Self). This world became the sole locus of development and redemption; we must enhance the quality of our lives here, and not in some spiritual realm. Salvation is a psychological affair; soul becomes mind or self. Freud was immersed in this cultural atmosphere, and several writers point out that his work contains a Romantic influence.

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[99]For example, the development of the steam engine in England in 1769, followed by powered textile machines. Industrialism opened up new skills and prosperity, but also led to the isolation of workers in old decaying industries, child labor, and the terrible poverty and insecurity of working-class life.

[100]It is probably an oversimplification to describe Romanticism as if it were a single overarching movement; I do so here for heuristic purposes only.

[101]She makes the interesting suggestion that the developmental theories of contemporary psychoanalyis are ìcast and elaboratedî in terms of a generative metaphor rooted in Judeo-Christian mystical narratives of the history of the soul (p. 194). This narrative has been ìprogressively secularized and interiorizedî until its trajectory is now seen to take place in this world over the course of an ordinary life, told as the story of the development of an individual personality. Kirschner believes that traditional religious themes such as redemption live on in psychoanalysis in the guise of its emphasis on intimacy, authenticity and creativity. Psychoanalysis offers its own approach to the problem of evil and suffering. The cosmos of our religions has now been re-located to everyday life, shrunk to the scale of the self; heaven and hell are inside us. No wonder some form of depth therapy is still necessary and popular, in spite of managed care.

There are several intellectual precursors to Freudís work. (Here I will pick out a few major contributors; for a fuller account, see Ellenberger, *The Discovery of the Unconscious*, Basic Books, 1970). Leibniz had noticed the difference between ordinary perception and ìlittle perceptionsî that are too small to influence our thinking. German psychology after this became aware of the difference between focal and marginal psychology, where marginal events have to move to the center of awareness to affect it. Herbart (1776-1841--chair of philosophy at Kˆnigsberg after Kant) was an important figure in the tradition of Leibniz and the mindís dynamic mental activity. He saw the mind as a dynamic system in which ideas, which are the mind's basic units, are like psychic atoms that either collide and interfere with each other or coalesce into larger wholes. He thought of these interactions as a type of mental mechanics, analogous to machine operations. He realized that some idea are observable and others are not--some are unconscious. (Fechner may have arrived at his work on sensory thresholds from Herbart.) Herbart realized that there is a process of apperception that groups ideas together. J. S. Mill, in his *Logic* of 1843, suggested that there are nonconscious intellectual processes in the mind that allow us to make inferences and judgments.

Freud develops Schopenhauer's will, an idea that was prominent in Freud's time; "I will therefore I am." The intellect is not independent, it is rather in the service of a dynamic, irrational force that we experience as striving. This force is the will, which is what rules the world, not enlightened reason. The German Romantics were all voluntaristic[102]; they emphasized an irrational force underlying all mental life, and indeed all of nature. Schelling viewed the world as the creation of a universal will, a metaphysical force that is at the basis of everything in nature. Since we are not aware of this will, it is a short step to the idea of the unconscious, and some authors, such as Karl Gustav Carus, actually used this word instead of will, to represent the creative life force in a very broad sense. He pointed out in his *Psyche* (1846) that ideas that were conscious in childhood go into the oblivion of the unconscious as the child matures. (Perhaps one of Freudís greatest achievements was that, unlike writers like Carus, Freud did not simply speculate but suggested ways of investigating the unconscious.) von Hartmann, influenced by Schopenhauer, shifted from will to unconscious mind in his *Philosophy of the Unconscious*. von Hartmann postulated the unconscious as instinct in action with a purpose, even though it does not know what will happen. The unconscious therefore has three levels; a physiological level, such as reflexes, a mental level that the person is not aware of; and an absolute level that is a kind of

[102]Voluntarism is the view that makes our ability to control a phenomenon an essential part of our understanding the phenomenon. Historical volunarism means that human will is a major factor in history.

life force. We do not act by conscious reason, but rather we construct reason to explain our acts; the unconscious is a universal principle that synthesizes intellect and will. (Here is teleology that Jung picks up later.)

In the 19th century therefore, there were several attempts to discuss the unconscious. The problem was how to account for what was marginal and what was central, or why something became unconscious--there was no sense of what today we call the dynamic unconscious. Freud develops these ideas, especially the problem of how we deal with the unconscious and what it does to us; he wanted to discover a force that controls behavior that is not under conscious control. Of course, at the same time there was a great resistance to any ideas of an Absolute that is operating behind the scenes; the materialistic scientists of the 19th century did not like this idea at all. Another problem was that Freudís ideas were hard to test empirically. Wundt[103] and other psychologists of consciousness had focused on introspection, which was at least a somewhat observable process, but Freud looks beneath consciousness. This is partly why Freud was not so warmly received; his ideas were seen as anachronistic or metaphysical because he had to make too many assumptions that could not be verified positivistically. At Freudís time, philosophy was rather Hegelian, idealistic and Romantic--there is a mind in the universe, and we are free. But at the same time, science was turning to positivism, mechanism, physicalism and determinism; Helmholtz was the great man of science, Freud's teacher was Br¸cke, a student of Helmholtz, and Darwinism was well known. However, since Freud was not a thinking type, I wonder if, deep down, he did no trust empirical science, although he was trained in it. Internally, Freud may have been torn between a Romantic streak in his nature and his scientific training.

Other sources of psychoanalysis have been suggested. Freud may have been reacting against the fact that the traditional German scholars had been very antisemitic, and Freud wanted to undermine their work on consciousness. Some historians argue that psychoanalysis was developed out of disillusionment with contemporary politics; it has been suggested that psychoanalysis was a political challenge to the rulers of Austria-Hungary. Viennese culture at the time of Freud was in turmoil, as the liberal rÈgimes that tried to institutionalize

[103]Wundt was an exception to the German philosophical tradition, since he was more of an empiricist and not so concerned about the mindís intrinsic activity. Largely perhaps due to Wundt, in the 19th century psychology tended to move in the British direction of mental passivity--things are imprinted on the mind. That's why the Gestaltists were a hit; they were the alternative to Wundt--the mind does something of its own nature--it has its own organizing principles; cf archetypes; did Jung react to Wundt also? The Gestaltists believe we inherit these structures, so we mentalize in characteristic ways; this is a compromise with empiricism, since the content is given by the environment but the mind has its own processes.

Enlightenment thinking were collapsing. The hope of continuing democratic reform and increasing freedom was fading under the influence of reactionary and anti-Semitic forces. Many liberal intellectuals felt defeated, realizing that rationality could not deal with some of the irrational elements of human nature. It was necessary to turn to a study of human motivation and passions in the face of the prevalent disillusionment with political life. Finally, it is possible that Freud was influenced in his theory of hysteria by the recent discoveries in bacteriology; tuberculosis had recently been shown to be due to a bacillus, and Freud was looking for a single cause of hysteria.

Jean Martin Charcot (1825-1893)

Hypnotism, or as it was called in the mid-19th century mesmerism, began to be used again in the 1840ís after some decades of neglect following the controversies around Mesmer. It was being used to treat neuroses and as an anesthetic for surgery, although this use was soon superceded by the invention of anesthesia. In Nancy, a French country doctor named Auguste LiÈbeault wrote a book about the use of hypnotism in medical practice, and its new career began. Charcot used hypnosis to treat hysterical patients, including those suffering from hysterical paralysis, blindness, mutism, and many other variants. He realized that ideas can influence behavior, eg by hypnotizing someone and suggesting that an arm would be paralyzed, then making the arm normal; the *idea* caused the paralysis and then removed it. Charcot did not take the step of thinking about the ideas behind hysteria in dynamic terms. The problem was to explain why some ideas would become so powerful and inaccessible, and how they can cause such damage. Interestingly, Charcot never used hypnosis as a therapeutic instrument--it seemed to interest him as a way of demonstrating hysterical symptoms.

Charcot thought that the cause of hysteria is the result of traumatic shock to a nervous system that is weakened by heredity--hysteria as a neurological illness. Freud later picked up on the idea of the effects of delayed trauma. Charcot believed that a hypnotic trance was an altered state of consciousness, and that trance produced actual neurological changes. He believed that only a hysteric could be hypnotized, because hypnosis requires an underlying vulnerability of the nervous system, which is why hysterics are so suggestible. But another school of thought, based in Nancy (Bernheim and LiÈbeault) was that hypnotism is the result of suggestion based on expectation--there is no real disease of the CNS; hysterical people behave as they think they are expected to do, almost as a social role scripted by doctors and adopted as a way of finding some meaning in their lives. The expectation creates the reality. In other words, some "diseases" are actually artifacts or cultural scripts invented by doctors and psychologists (enter the seeds of

criticisms that will be applied to the DSM). This school treated people using post-hypnotic suggestions; under hypnosis, the patient was told that she would be free of symptoms when she woke from the trance.

Pierre Janet (1859-1947)

Janet was an important student of Charcot. Janet realized that hysteria was a disorder of the *personality* as it reveals itself in perception or emotion--hysteria is not simply a disorder of perception or emotion per se. Janet realized that introspection and psychophysics would not do as explanatory methods to understand hysteria. He did not believe that defects in the CNS could account for hysteria. He is most important for the idea of an alternate consciousness paradigm--the hysteric is dissociated, in an alternate personality. He thought that constitutional weakness led to a lack of psychological cohesiveness--hysterics cannot synthesize or integrate all that happens to them, so aspects of consciousness are split off, causing a person to behave as if they are completely motivated by some idea that is idea split from the rest of consciousness. This idea appears as another personality. He believed that this fixed idea controls the patientís life and narrows the field of consciousness *(abaissement du niveau mentale)* so as to render the person inaccessible to external events. He defined an unconscious act --he preferred the term subconscious-- as the act of another consciousness within the personality. Janet was one of the first people to realize that dissociation could occur. He believed in the unconscious, but he thought that Freud and Breuer (in their *Studies in Hysteria*) had not really reached the deepest layers of the mind in which the pathological idea is to be found; he also disagreed that just bringing the problem idea to light would be curative, and he disagreed that in most cases the problem idea was sexual. (He was ahead of his time in many ways.) In his autobiography, Freud tended to dismiss Janet, saying that when he spoke of unconscious mental acts he meant nothing by the phrase; it was just a way of speaking. But Janet did hypnotize people and discovered that they could recover traumatic memories that were related to their symptoms, and that this catharsis could be helpful. Janet published this observation before Breuer, and they argued about priority.

Frederic Myers

Myers was a contemporary of Charcot and Janet and a friend of William James. His 1903 *Human Personality and its Survival of Bodily Death* is little known and rarely cited today. He investigated hypnotism, automatic writing and mediumistic phenomena, and he looked for evidence of human immortality, which is probably why he is ignored. Myers disagreed with

Janet that automatism, dissociation, and phenomena such as automatic writing, are always unhealthy. Nor would he dismiss parapsychology and paranormal events. He believed that psychology has to take all data into account, (unlike the committed materialist), and we have to use judgment as well as good methods for deciding if paranormal phenomena are valid. If they cannot be dismissed on these grounds, we have to try to explain them, and there is no need to call them abnormal. By studying mediumistic phenomena and other automatisms, Myers thought we could learn about personality.

In his early work, Myers thought that automatic writing was due to unconscious cerebration, similar to what might be happening in dreams. Or, it might originate in a higher level of the mind, or even be the result of telepathic influence from other minds, since sometimes information would appear that was unknown to the conscious personality. He even considered the possibility of it arising from extra- human intelligence, so one can see why he was not taken too seriously by the establishment. In his 1885 article on automatic writing (*Proceedings of The Society for Psychical Research*, *3*, 1-63), Myers came up with the idea of a subliminal self to explain the phenomenon. This hidden self shows an intelligence or knowledge beyond the conscious subject. (How much influence did this work have on Freud and Jung?) Myers realized that personality is not unitary; there are multiple chains of memory revolving around multiple personal centers with multiple character traits--Jung is later to call these complexes.

Myers wondered how we could assume that ordinary waking consciousness is superior to other types of consciousness, such as deep sleep, somnambulism, multiple personality, or hypnosis. He suggested that these other states are superior in some ways. They have more memory, higher moral values, greater control over the body, and closer contact with paranormal abilities. In contrast to Janet, Myers did not believe that they were manifestations of degeneration. These phenomena led him to the idea of the subliminal self. This notion suggests that the stream of ordinary consciousness is not our only consciousness. The ordinary self is just the one that is best for daily living, but there are other consciousnesses that exist in some kind of coordination with the rest of ones individuality. Myers wrote that "each of us is in reality an abiding psychical entity far more extensive than he knows--an individuality which can never express itself completely through any corporeal manifestation. The Self manifests itself through the organism; but there is always some part of the Self unmanifested" (quoted by Crabtree, *From Mesmer to Freud*, p. 333-4). The part of the self that exists below the threshold of our ordinary consciousness Myers calls the subliminal self, which is conscious to varying degrees. The ordinary self, which Myers calls the supraliminal self, is not superior to the subliminal self, which has a multitude of consciousnesses, not just one. The subliminal self has phenomenal

memory and can affect the body in ways that are out of the control of the supraliminal self, as shown by hypnosis, which can form blisters in response to suggestion alone, affect the senses, reduce pain, control bleeding, etc.

Myers thought that the supraliminal self evolved to deal with ordinary life in the world, but it is only a small part of the greater self. We identify with, and we privilege, the supraliminal self and ignore stimuli coming from below that. Psychologists study the supraliminal self because it is easiest to study! But this is not our whole being.

There is a barrier or psychic membrane between the two levels of self; this barrier allows information to flow from the supraliminal to the subliminal, but not much goes the other way--when there is an uprush from below, it seems like something out of the blue. This arrangement is important because the supraliminal self could not function if was constantly aware of the subliminal self. An upsurge from the subliminal self has a different quality than ordinary consciousness--it feels like an inspiration. Hypnotism allows messages to pass upwards at the same time as it inhibits supraliminal functioning, and so allows access to the subliminal self. Cures happen under hypnosis when the subliminal self is activated and can affect the body.

The harmony of the organism is maintained by a mysterious, overreaching psychical entity that maintains a continuum for the smaller entities (*Human Personality and its Survival of Bodily Death*, vol. 1, pp. 34-38)--did Jung read this? The problem occurs when some psychic centers operate without connection to the rest of the personality --here again is the idea of the complex. An early sign of disintegration is the presence in consciousness of Janet's *idÈe fixe*, an uncontrolled group of thoughts or emotions that are alien and intrusive, leading to a persistent, special idea or image that presses into consciousness with pain and frequency (*Human Personality and its Survival of Bodily Death*, 1, p. 42). This arises because the normal barrier is too permeable. In hysteria, some primitive aspect of the subliminal self affects consciousness. Janet had already realized that the fixed ideas that emerge are out of harmony with the ordinary self, but they are known to the layers discovered by hypnosis. He also realized that multiple personality disorder is due to malfunction of the hypnotic strata of personality, and that the different personalities can be reached by hypnosis.

Myers also investigated geniuses. He thought that they experience uprushes of the subliminal self, felt as creative inspirations from an unknown source that has a high intelligence--the subject feels this source as other than the normal self. A genius just gets more of these uprushes than other people. Myers writes about R.L. Stevenson; when he was desperate for money, he

would experience vivid dreams which gave him ideas he could publish. He described the "little people" who managed his "internal theater," and how *they* produced the needed story, not him. Even when Stevenson woke up from a dream and started to write, he would not know the outcome of the story--he was guided by his "brownies." Myers says this is an example of the subliminal self at work.

Another mode of entry of the subliminal self is the phenomenon of clairvoyance by gazing into a crystal ball or a bowl of water, which produces a sensory automatism. Myers also believed in telepathy, in which an image could be transferred between minds, as well as perception at a distance and precognition. These phenomena originate in the subliminal self, as did the phenomena of spiritualism. Some psychical researchers believed that mediumistic experiences were the result of possession of the medium by a spirit, so that she no longer spoke out of her own personality because a discarnate entity was in charge. Myers suggested (as Jung did later in his work on Prieswerk) that a secondary personality that originates in the subliminal self seems to be such a separate entity. Or, Myers asked, could there actually be a discarnate entity speaking? There is some evidence that information not known to the medium sometimes appears. Perhaps a spirit can communicate telepathically with the medium, thought Myers.

What was really radical in Myers' thought was the idea that evolutionary theory does not account for the whole of human beings. Myers did not think that human faculties could have evolved through chance evolution and genetic changes. Rather, our existence reveals powers that were always there; the subliminal self has unknown abilities and it originates in an unknown way, not merely by contact with daily needs of the organism. It is the subliminal Self, he believes, that survives death.

William James wrote a paper called The Hidden Self in 1890 that also speaks of the simultaneous coexistence of different aspects of one personality, which may become split. In his *Principles of Psychology* of 1890, he says that the self is naturally multiple, but he does not advance a theory to account for these structures. This led him (in the 1896 Lowell lectures) to the idea of a second intelligence in the person that does not interfere with ordinary consciousness. This intelligence is manifest in hysteria, automatic writing, multiple personality disorder, possession, etc. He attributed these phenomena to a subconscious mind, and believed that understanding its psychology would be very helpful as a therapy (Crabtree, p . 347). But James was reluctant to admit the existence of an unconscious mind, because by definition we could not have access it, so this seemed a scientifically dangerous idea. James was worried that this theory could easily become a way of proposing untestable notions.

Another major believer in the alternate consciousness paradigm was Morton Prince, a neurologist at Tufts Medical School. He described the case of Miss Beauchamp in his *Dissociation of a Personality*, 1905. Prince also studied automatic writing, and noted that it can be very elaborate indeed, very complex and original, with a content that is unknown to the conscious personality. He also believed that this was the result of a subconscious intelligence. To clarify the difference between subconscious and unconscious, terms that were being used a good deal at the time, he suggested a careful definition of terms; he thought that "subconscious" should be replaced by "co-conscious," and "unconscious" be reserved for *physiological* processes that we are unaware of. Co-consciousness for him coexists with ordinary consciousness; he thought that Freud had made a mistake calling ideas unconscious. Rather, a co-conscious idea includes states of mind that we are not aware of, as well as pathologically split off and independently active ideas such as occur in hysteria, multiple personality and automatic writing. Co-conscious ideas are going on simultaneously with consciousness, but they feel as if they originate somewhere else. There are two systems of consciousness, according to Prince, which is why dissociation can occur. In multiple personalities the dissociated system has taken on a stabilized form that has become personified.

What has all this to do with Freud? This alternate consciousness paradigm (ACP) was developing as he was beginning his work. But, when his ideas about repression as a psychological explanation for hysteria erupted on the scene, these ideas took over the field and people ignored the alternate consciousness model. Why this take-over happened is not clear, since we know from recent work on multiple personality that the ACP is important. But Freud insisted on the notion that hysteria is due to dynamic factors, mental conflicts and repression and not dissociation.

At the same time, psychoanalysis could not have happened without the ACP already being in existence. Breuer's work was in the ACP line; he practiced hypnotism, and surely knew about Charcot. He treated Anna O. (Bertha Pappenheim) with hypnotism. He found that if she related the incident that caused the beginning of one of her hysterical symptoms, that symptom would go away. Initially she went into spontaneous, self-induced trances, which is when he would treat her, but then he began to induce trances, gradually uncovering the original traumas. Her story-telling helped her anxiety, and helped her process the trauma, and by releasing the original affect trapped with the traumatic memory--abreaction--a catharsis would occur and she would get better. Breuer decided that she had ideas that she could not admit to consciousness and her symptoms helped her avoid them. He had to help her release the idea and its associated affect.

Breuer and Freud wrote this up in *Studies in Hysteria* in 1895, leaving the impression that the treatment had worked; but they did not mention that the patient did not get better at all--she was subsequently institutionalized. Yet, her case became the prototype for cure by catharsis, even though the treatment did not really help her! This was an astounding confidence trick.

Bertha had always had a tendency to day-dream, apparently in normal reveries, but under the stress of nursing her dying father a complete dissociation set in, producing another consciousness that alternated with the normal one--by today's DSM criteria she was not so much a hysteric as a dissociative disorder. She had no recall of the pathogenic traumatic events in her normal state. Breuer called Anna's self induced states "hypnoid," and thought that such people have a spontaneous disposition to go into them. He thought they occur when affect builds up that cannot be discharged or integrated into normal consciousness. The build-up causes the affect to be isolated from ordinary consciousness. Here he agrees with Janet that the memory of a traumatic event exists in the person like a foreign body, and affects waking life. Breuer believed that because some ideas are admissible and some are not, the mind splits. When a trauma occurs, the mind is thrown into a hypnoid state, and afterwards whenever the trauma is recalled the person reenters the state of hypnoid fear. Eventually the hypnoid state exists side by side with the normal state, and the somatic symptoms become permanent.

Breuer had told Freud about his treatment of Anna O. in 1882, although Freud did not use the idea until 1889. Freud and Breuer agreed about catharsis, but disagreed about hypnoid states. Breuer thought that a splitting of the mind required a hypnoid state, but Freud thought that material could be repressed from consciousness for reasons of defense, in which case the repressed idea persists as a memory trace while the affect that is separated from the idea manifests as a somatic symptom. Freud later (in the case of Dora) completely rejected Breuer's view that hypnoid states are important in the origin of hysteria. In this way he separates his ideas from the double consciousness tradition in which split off aspects of the mind are understood as hypnoid. Freud had a different explanation for splitting of the mind--repression-- and so hypnosis became unnecessary.

Janet thought that Freud had just taken over his system and given it a new terminology, on the basis of insufficient evidence. Janet disagreed with Freud about the idea that normal people have hidden mental processes, because he thought that dissociated aspects of the mind were basically pathological--but Freud realized that everyone had an unconscious. Freud thought that consciousness is unique; we can only have one. But Janet believed that a person can have multiple centers of consciousness operating subconsciously--several streams of mental life

operating at the same time, like several minds in one body (Jung writes the same way about the unconscious, that it has multiple centers of consciousness). But Freud believed that "consciousness" is not the same as "mental," so not all mental life occurs within a consciousness--there is unconscious thinking and wanting. So his unconscious and Janet's subconscious were not the same; he thought that what Janet described as a double consciousness is actually a splitting of mental activity into two groups, but there is one, single, same consciousness that turns to either of these groups alternately. For Freud there is no second consciousness (The Unconscious, 1915, SE 14). In his 1925 *An Autobiographical Study*, Freud also insisted that mental does not equal conscious (Here he differs radically from Jung, who believes that the unconscious is itself conscious.) For Freud, consciousness is like a light that shines on one place at a time, illuminating different groups of mental elements. Dissociated groups of objects in the mind are mental but not conscious. There is no doubling of consciousness. He thought that multiple personality was the result of different identifications of the ego with different objects in the mind, and different identifications seize hold of consciousness in turn (*The Ego and the Id.*) Overall he mostly ignored the phenomenon of multiple personality, because he had no real explanation for it. This did not matter for a long time, since, in the years after 1920 until the recent interest in it, multiple personality was rarely diagnosed.

Breuer never really got the credit for an idea that has now become of importance again, beginning in 1957 with *The Three Faces of Eve*, which stimulated a renewed interest in multiple personality. In 1973 appeared *Sybil*, another woman with multiple personality--both these books were made into movies. Interest picked up rapidly after this time. The diagnosis first got into the DSM 3 in 1980, whereupon the condition suddenly was diagnosed all over the place. Now we know a good deal about its origin in childhood abuse, and its relationship to trauma. In 1970, Ellenberger 's *Discovery of the Unconscious* made people realize that this piece of history was important.

Breuer and Freud had different views about why some feelings are intolerable and split off from the rest of the mind. They wrote separate theoretical chapters on this question in *Studies in Hysteria*. Breuer thought the answer was that the experience that caused the problem occurred during an altered state of consciousness that he called a hypnoid state--eg when Bertha was exhausted by the care of her father. The disturbing events could not be integrated because they were registered in an altered state of consciousness, when she was not in her normal mind. Breuer believed that putting her in a trance and making her re-live the experience healed the split in her consciousness. But Freud believed that the pathogenic memories were not the result of

the altered state of consciousness in which they were produced, but were causing trouble because the actual content of the experience was extremely disturbing and in conflict with the rest of the personality. The ideas were too incompatible with the person's values and feelings, so they were actively kept out of consciousness. Breuer saw hysterics as too prone to altered states of consciousness; Freud saw hysterics as ridden with conflicts and secrets that they could not admit to themselves.

Freud eventually rejected the method of hypnosis, since it seemed too mystical, and he could not hypnotize everyone. He found that hypnosis would get round the defense that kept the memories out of awareness, but the resistance to the memory would recur when the trance ended. If Freud were to tell the patient what she said after she awoke, it did not help the patient, since it only produced intellectual awareness of the problem, with no experiential or affective component. Freud wanted to be able to get rid of the defense against the memory, which is why he settled on free association. He arrived at this process in response to a demand made by a patient, whom he called Frau Emmy von N. (Fanny Moser, a 40 year old widow.) She suffered from facial tics, frightening hallucinations and dreams, interruptions of her speech with spastic noises, and an intense fear of socializing. Initially Freud used Breuerís cathartic method combined with post-hypnotic suggestion. The patient did not have lasting improvement in her symptoms, but Freud learned a good deal from her. When he asked her to recall a traumatic incident, she tended to ramble on and on apparently irrelevantly. One day she reproached Freud for constantly asking her questions in his attempt to focus her attention on what he was interested in; she wanted him to let her just say what she had to say. (To our ears, this sounds like a request for him to be a mirroring selfobject.) Freud found that if he let her speak freely without interrupting her, no matter how irrelevant the material sounded, she would eventually reveal to Freud why she was so isolated. He realized that allowing the patient to just say whatever was on her mind was more effective than pushing her to remember. This technique also solved the problem of what to do with patients who could not be hypnotized.

Freud began to ask his patients to lie on the couch, close their eyes and say whatever came to mind. Often nothing came, or the material seemed irrelevant. Painful memories were hard to recall; he called this difficulty remembering ìresistance,î and began to press on the patientís forehead to encourage recollection. He would assure the patient that as long as the pressure lasted he would see a mental image or think of an idea. Freud persuaded the patient to report whatever emerged, no matter how disagreeable it was for the patient to say it, and no matter how unimportant was the idea or image. ìOnly in this manner can we find what we are in search of, but in this manner we shall find it infalliblyî (S.E II, part IV, p. 270). Usually what emerged

was not a memory of trauma but further associations that led to a pathogenic idea and its hidden meaning. Freud called this method ìanalysis,î and used the term ìpsychoanalysisî in 1896.

With hind-sight and the benefit of modern theory, we can see that he found what he was looking for; he had a pre-conceived idea of what to listen for so he probably reinforced the emergence of particular material. In fact, what probably helped the patients the most was his empathic listening, his care, his great interest in their material and their lives, his soothing presence, and his capacity to foster idealization by reassuring them that he could help.

Freud gave up the forehead pressure method in 1900, because he thought it fostered suggestability and made him too visible a presence, instead of allowing the patient to focus on the retrieval of memories. He simply asked the patient to relax on the couch (he disliked being stared at all day), and encouraged free association without any censorship. He expanded this method to all forms of neurosis.

Freud had briefly alluded to the presence of the transference in his Studies in Hysteria. In 1900, he began to discover more about this phenomenon when he treated a young woman whom he reported as Dora. Freud believed that her symptoms (shortness of breath, periodic coughing, inability to speak, fatigue, depression and suicidal ideation) were traceable to an unwelcomed sexual approach made to her by Herr K., to whom--in Freudís opinion--she felt a conflictual mixture of repulsion and sexual attraction. Dora stopped treatment after only three months, without any explanation. Freud realized that he reminded Dora of Herr K., since he and Herr K. were both heavy smokers, and she had transferred her feelings about Herr K. to Freud. He had not noticed this during the treatment, and so had not interpreted it at the time. Had he done so, Freud believed she would have been able to deal with her feelings. Again in hindsight, and from the point of view of modern theory, we see that Freud did not understand Dora at all, because he tried to fit her into his theoretical framework, ignoring her subjective experience of both him and Herr K. Freudís handling of Dora was grossly unempathic, because she needed to remobilize her selfobject needs in the transference to him. She could not develop a selfobject tie to him because he kept insisting on his own interpretations of her behavior. (For a full review of this case, see Ornstein, P. Did Freud Understand Dora? In: Barry Magid, ed. *Freudís Case Studies*. Analytic Press, 1993).

Since about 1895, Freud had been using dreams to understand his patients. He had been working with his own dreams since 1897, as part of his self analysis. He called dream interpretation the ìroyal roadî to the knowledge of the unconscious. In his 1900 *Interpretation of Dreams*, he

pointed out that most earlier psychologists had dismissed dreams as meaningless, but Freud realized that dreams contained important unconscious material that were able to erupt during sleep because the normal capacity to censor was not functioning. Freud believed that dreams fulfill wishes that would be sufficiently distressing to wake the dreamer if they were to become conscious. To protect sleep, the unconscious disguises disturbing elements and transforms them into harmless images. Therefore, the manifest content of the dream is not what it is really about. But by free associating to the imagery we may access the latent content.

As a result of his work using free association and dream analysis, Freud decided that sexual difficulties were at the basis of most if not all neuroses. This was a subject of general scientific interest at the time, but only with regard to descriptions of adult sexuality, such as von Krafft-Ebingís account of sexual deviations. Children were considered to be totally innocent of sexual feelings. But Freud heard his patients remember sexual feelings from childhood, as well as accounts of molestation and incest by family members, household servants and others. He announced his seduction theory in 1896 in a lecture that was not well received. Subsequently he complained of feeling shunned by colleagues, and increasingly professionally isolated.

As time went on, he found it harder and harder to believe that so many girls were being molested by their fathers, and he began to doubt the veracity of these reports. Finally he decided that these memories were actually fantasies and not real incestuous memories. There has been some controversy about his giving up the seduction theory; Jeffrey Masson claimed that Freud just thought it was bad for business because it offended his colleagues. This seems unlikely, especially since his new theory of infantile sexuality and incestuous feelings towards the opposite sex parent was even more troublesome to his colleagues. Other people have suggested that he came across suggestions of incest within his own family during his self analysis, and this was too much for him.

In 1895, the year in which *Studies in Hysteria* appeared, Freud began work on his Project for a Scientific Psychology, in which he tries to explain psychological phenomena in terms of brain processes. But neuroscience was still in its infancy, so that he abandoned this work and turned to more psychological explanations of mental events, although a biological flavor permeates all his work. He never gave up the idea that the mind must have an organic basis.

Part of the difficulty for English speaking people has been that his translator used the word ìmindî to translate the German *Seele*, which Bettlheim argued that really should mean ìpsycheî in the sense of soul, or the entire mental and emotional aspects of the individual.

There are many summaries of Freudís work which can readily be consulted. Typical critiques are as follows: 1. He was not scientific; Freud did not have a systematic way of collecting data, which mostly consists of what people remembered and told him. He did not try to confirm this material independently. 2. He offers his conclusions, but not his way of arriving at them. 3. His variables and constructs are not clear or quantifiable. 3. His work is based on memories of childhood, but he did not treat any children, except for Little Hans. His inferences about childhood all come from the analysis of adults. 4. His theory has little predictive value, and cannot be readily tested or refuted.

All these critiques are based on the fact that his work does not meet the criteria for good empirical research. The basis of his work is inductive; he finds patterns, makes a theory about their causes, then looks for more cases to support the theory, which either support or tend to refute the theory. However, Gr¸nbaum (1984, *The Foundations of Psychoanalysis*, Univ. of Ca. Press, Berkeley) points out that this process provides weak evidence for a theory. The analystís influence contaminates all the data; when the analyst makes an interpretation, the patient finds a memory to support it. Furthermore, by using one method--free association--to investigate many phenomena, such as dreams, parapraxes, and symptoms, it is likely that agreement with a theory is the result of the method rather than a real concurrence of the findings. Gr¸nbaum says this means that psychoanalysis must be verified outside the clinical setting, either epidemiological or experimental, since clinical data is too contaminated. Some such studies have been carried out--see Kline, *Fact and Fantasy in Freud* (1981, Methuen, London)--and many of Freudís ideas have been supported using good research methods, although psychoanalysis is a conceptual system that does not lend itself to controlled laboratory-style research. According to one anecdotal account, when the possibility was offered to him, Freud angrily rejected the idea that psychoanalysis could be subject to experimental proof (R. R. Grinker, 1958, A Philosophical Appraisal of Psychoanalysis, in J. H. Masserman, ed. *Science and Psychoanalysis*. vol. 1, p. 132.) Jung too thought that the unconscious, by its nature, could not be made subject to experimental analysis because it cannot be represented by thinking or reasoning[104].

The criticisms of the empiricist and the positivist are not the best ways to appraise Freudís work; in a way they miss the point. Freud has had a huge impact on western culture and the history of

[104]There are some broad critiques of all depth psychological schools. They tend to reify psychological phenomena, for example Freudís id and Jungís shadow. They tend to see psychological life in terms of polarities such as id-superego, or anima-animus. They tend to be exclusive, rejecting competing schools of thought as if there were only one way to understand the psyche.

psychology. He began the field of psychotherapy, and had a major influence on education, art, literature and other fields. We think about ourselves differently because of Freud. Just to demonstrate the importance of the unconscious was enough to cause a revolution in thought.

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[i]A major critique of utilitarianism comes from moral theories called deontological (concerning duty or moral obligation). They point out that we cannot always make judgments about what is right and wrong based on what we desire; this is especially true for judgments about justice.

[ii]An important criticism of associationism is that not knowledge is based on sensation. There is purpose to our mental activity that associationism ignores (see F. H. Bradley, James Ward and G. F. Stout). Pavlov studied associations physiologically, leading to learning theory, an association psychology of behavior. The same criticisms apply. Even among the behaviorists, there are other suggested mechanisms for the making of associations, such as pleasure and pain, reduction of need, knowledge of the results of ones actions, and others. These critiques have led to the rejection of associationism as an explanation of higher mental processes, but it seems to be important for some leaning based on the accumulation of experience.

[iii]Mill had been influenced by the French Positivist, Auguste Comte (17981875*Cours de Philosophie Positive,* 18301842, in 6 volumestranslated by the British feminist Harriet Martineau into English.).

[iv]But most scientists today recognize that there is no logical progression from data gathering to a scientific theory. Scientific creativity is like artistic creativity; only the criteria for critical appraisal are different.

[v]The concept of the great chain of being began with Plato and Aristotle and was systematized by Plotinus. The universe is "full," that is, it contains every possibility of being, or types of existence. These are continuous, that is, the universe is composed of an infinite series of forms, each one of which shares with its neighbor at least one attribute. This series of forms is arranged in a heirarchy from lifeless matter, through simple organisms, plants, animals, human beings, and angels with God at the top. The idea was Christianized by Augustine and was influential until the 19th. century.

[vi]Modern affect theory builds on the innate affects of the baby--which can be clearly seen on the new-born's face--to point out that affects are built in signalling devices, so the baby can communicate with mother.

[vii]The notion that human beings can be improved by selective breeding. The American Eugenics Society, founded in 1926, believed that the superior position of the wealthy was justified by their superior genetic endowment. The Society also supported restricting immigration from nations with "inferior stock," such as Greece, Italy, and the countries of eastern Europe, and recommended the sterilization of people who are insane, retarded, or epileptic. More than half of the states in the US passed such sterilization laws.

[viii]Weber's law was later applied to the measurement of sensation by Gustav Fechner, a student of Weber, who went on to develop psychophysics. Because this law indicated a relationship

between the spiritual and physical worlds, the law indicated to Fechner that there is really only one world, the spiritual. To other researchers, Weber's law meant the possibility of a scientific, quantitative psychology.

[ix]The idea of apperception was originally that of Herbart, a 19th. century philosopher of mind. In his theory, an organized but unconscious system of associated ideas formed an "apperception mass." This system could apperceive a new presentation and thus give it richer meaning.

[x]Later, Titchener quarreled with Kulpe, saying that all conscious contents, such as thoughts, can be traced to sensations or feelingsthere are no imageless thoughts; the Wuzburgers had missed slight kinesthetic movements of the body; they had given up too soon on finding the source of the thought. Titchener believed that thought is a mixture of kinesthetic sensations and images, and will is a compound of images that are formed before we carry out an action. For him, thought and will are linked through mental images; thought must be accompanied by images.

[xi]Locke and Decartes postulated a realm of consciousness or mind detached from the physical world.

[xii]Wertheimer was stripped of his professorship [at the University of Frankfurt] by the Nazis, and ended up in New York.