LOGIC AND LEGAL REASONING: A GUIDE FOR LAW STUDENTS

By Neal Ramee, Class of 2003, © 2002

I consider the invention of the syllogism one of the most beautiful, and also one of the most important, made by the human mind.
- Gottfried Liebniz [1]

In legal writing, it is not enough for an argument to "make sense" or "get the point across." A legal argument must exhibit what your Coursepack refers to as "pristine logic."[2] In order to exhibit "pristine logic," a legal argument should adhere to the form of the *logic syllogism.*

A syllogism consists of a *major premise,* a *minor premise,* and a *conclusion.* A *major premise* usually states a general rule. In legal arguments, this is generally a *statement of law*. A *minor premise* makes a factual assertion about a particular person or thing or a group of persons or things. In legal arguments, this is usually a *statement of fact*. A *conclusion* connects the particular statement in the minor premise with the general one in the major premise, and tells us how the general rule applies to the facts at hand. In legal arguments, this process is called *applying the law to the facts.*

> Example: To qualify as a "citizen" of a state for purposes of diversity jurisdiction, a party must (1) currently reside in that state and (2) intend to remain there indefinitely. (*Major premise; states a rule of law.*) Here, the plaintiff does not currently reside in North Carolina. (*Minor premise; makes a statement of fact.*) Therefore, the plaintiff cannot be a "citizen" of North Carolina for jurisdictional purposes. (*Conclusion; correctly applies the law to the facts.*)

In order for a syllogism to be *valid*, it must be *logically impossible* for its premises to be true *and* its conclusion to be false. In other words, a syllogism is valid if, given the truth of its premises, the conclusion "follows" logically such that it, too, *must* be true. Note that an argument is not valid simply because its premises and conclusion are all true. Consider this example:

> Example: "All cats are mammals. Some mammals are excellent swimmers. Therefore, some cats are excellent swimmers."
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> Explanation: Each of these statements is true. Cats are indeed mammals. Some mammals (e.g. whales and dolphins) are excellent swimmers. And, as it happens, some cats (e.g. tigers and jaguars) are also excellent swimmers. But this argument is not valid. The fact that cats are mammals and that some mammals are excellent swimmers doesn't prove *anything* about the swimming ability of cats. Based on the information we're given in the premises, it is logically possible that no cat in the history of the world has ever stepped foot in water. Because it is *logically possible* for the premises to be true *and* the conclusion to be false, this argument is not logically valid.

The example above is a *fallacious* argument. Learning how to spot and avoid such logical fallacies can enormously strengthen your legal writing and advocacy by helping you adhere to the "pristine logic" of correct syllogistic reasoning.

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[1] IRVING M. COPI & CARL COHEN, INTRODUCTION TO LOGIC 244 (1994).
[2] RUTH ANN MCKINNEY, RESEARCH, REASONING, WRITING, AND ADVOCACY (RRWA) COURSEPACK, 89-93 (2000).

FALLACIES

[A]rguments, like [people], are often pretenders.
- Plato [3]

Fallacious and misleading arguments are most easily detected if set out in correct syllogistic form.
- Immanuel Kant [4]

Definition: A fallacy is an error in reasoning. A fallacious argument is one that may appear correct, but on examination proves not to be so. Even if the premises and conclusion are all correct, an argument may still be fallacious if the reasoning used to reach that conclusion is not logically valid.

Types of fallacies: Modern logicians have identified over one hundred distinct types of fallacy.[5] This handout lists the fifteen types that occur most frequently in legal writing and advocacy. Most of these fallacies may be grouped in two broad categories. *Fallacies of relevance* occur when the premises "miss the point" and fail to provide logical support for the conclusion.[6] *Fallacies of ambiguity* occur when the meaning of a key word or phrase shifts and changes, so that the terms do not really "match up" within the argument.[7]

Avoiding and exposing fallacies: Fallacies are extremely common. At first blush, they often seem persuasive. Because legal arguments can be quite complex, fallacies can be especially hard to detect in legal memoranda, briefs, and judicial opinions. Knowing how to spot and avoid them can improve your legal writing and advocacy immeasurably. By familiarizing yourself with the fallacies listed on this handout and searching for them in your own writing and the writing of others, you can develop and nurture the habits of "pristine logic" that all successful attorneys employ.

Getting more help: If you are confused about the rules of logic, or are having trouble applying them to your own work, please make an appointment to see Professor Markert or Professor McKinney in the Writing and Learning Resources Center. The Honors Writing Scholars may also be able to assist you, and the UNC Writing Center on main campus has a website with additional examples and explanations of logical fallacies. Go to: http://www.unc.edu/depts/wcweb/handouts/fallacies.htm.

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[3] COPI & COHEN, supra note 1, at 114.
[4] *Id.* at 244.
[5] *Id*. at 115.
[6] *See* id. at 116.
[7] *See* id.

SPECIFIC FALLACIES

Some of the most common fallacies are listed and described below. As you read the examples, try to identify for yourself what is fallacious about each one before reading the explanation that follows.

1. Appeal to Inappropriate Authority. This fallacy arises when the authority invoked has no legitimate claim in the matter at hand. In legal writing, this fallacy occurs when we cite a secondary authority or a case from another jurisdiction as controlling authority. It also occurs when we cite the opinion of an expert in a matter outside his or her expertise.

> Example: "In North Carolina, adverse possession requires actual entry and exclusive, open and notorious possession, adverse and under a claim of right, for the full statutory period. Benton v. Rennick, 22 So. 2d 173 (Fla. 1973); Black's Law Dictionary 545 (17th ed. 1999)."
>
> Explanation: Note that the case cited is from Florida, and thus is not controlling in North Carolina. Black's Law Dictionary may be used to cite a *general* definition of adverse possession, but not as support for what the law in North Carolina is.
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> Example: "The possession of nuclear weapons is a moral abomination. Even Edward Teller, the 'father of the hydrogen bomb,' urged the United States to halt production once the full extent of their destructive power became known."
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> Explanation: While it may seem persuasive that even the "father" of the hydrogen bomb disapproved of its development, note that Teller was a *physicist*, not a cleric or moral philosopher His views on morality are completely outside his expertise.

2. Disconnected Premises. In a standard logic syllogism, there must be exactly three basic concepts: a "major term" that occurs in the major premise, a "minor term" that occurs in the minor premise, and a "middle term" that occurs in *both* the major and minor premises, *but not* in the conclusion. (The conclusion should connect the major and minor terms.) The middle term is the glue that holds the argument together. That glue must be applied in the right places, or the argument will fall apart. In a typical legal syllogism, the middle term will consist of either the *elements* of a cause of action or the *definition* of some term of art. Consider the examples below.

> Example: "Murder is the intentional killing of a human being. State v. Jones, 12 N.C. 345, 34 S.E.2d 56 (1929). Here, the defendant is an escaped convict who was already serving a life sentence for the murder of a police officer and was apprehended just two miles from where the victim's body was found. Therefore, the defendant is guilty of murder."
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> Explanation: In this example, the attempt to create a syllogism is foiled because there *is no middle term*. The conclusion tells us that the defendant is guilty of murder. The major premise (the first sentence) defines "murder" by telling us the elements of that crime. Thus, in order to establish the conclusion, the minor premise (the second sentence) should show us that this defendant's conduct satisfied each of these elements. *The elements of the crime should be the "middle term" that connects the premises together.* Instead, the minor premise does not even mention the elements of murder. It gives us other, extraneous, information about the defendant (i.e. his prior record and where he was apprehended). Because it fails to refer back to a "middle term" (the elements of murder), the minor premise is disconnected from the major premise and the argument falls apart.

Example: "An 'attractive nuisance' is a dangerous thing or condition that could foreseeably cause children to trespass onto land and be injured. Smith v. Jones, 123 N.C. 45, 56 S.E.2d 78 (1963). Here, the defendant's goldfish pond is clearly an attractive nuisance. Therefore, the defendant may be liable for an injury sustained by a child in that pond."

Explanation: In this example, the attempt to create a syllogism fails because there are four basic concepts, not three, and the premises are not properly connected by a "middle term." The major premise (the first sentence) defines a term of art – "attractive nuisance." *The definition of this term, not the term itself, should be the "middle term" that connects the premises together*. But the minor premise does not even mention the *definition* of an "attractive nuisance;" it merely asserts that the defendant's goldfish pond is one. (This is what your Torts professor would call being "conclusory.") In order to form a valid syllogism, the minor premise should show us how the defendant's goldfish pond *satisfies the definition* of an attractive nuisance. For example, we could point out that a child could easily drown in the pond and that children are naturally curious about bodies of water, and therefore that the pond is both dangerous and likely to cause children to trespass. This would logically lead to the conclusion that the defendant's goldfish pond is an "attractive nuisance."

But note that this argument would *not* support the conclusion originally stated. Having established that the defendant's pond falls within the definition of an "attractive nuisance," we cannot fairly conclude that the defendant "may be liable for an injury sustained by a child in that pond." A valid syllogism must have only three basic concepts. The concept of the defendant's *liability* is a *fourth term* that does not appear in the premises. Therefore, this conclusion does not follow from the premises. What can we do to fix this problem? Having established that the defendant's goldfish pond is an "attractive nuisance," we must go on to explain why the defendant may be liable by creating *another logic syllogism*. For example: "In North Carolina, a landowner may be liable for injuries sustained by a child who is lured to trespass by an 'attractive nuisance.' Williams v. Lee, 45 N.C. 67, 23 S.E.2d 123 (1948). Here, as we have seen, the defendant's goldfish pond is an 'attractive nuisance.' Therefore, the defendant may be liable for the injuries of a child who trespasses onto his land because of that goldfish pond."

3. Irrelevant Conclusion. This fallacy occurs when the premises "miss the point" and fail to substantiate the conclusion, instead supporting some other, perhaps unstated, conclusion. Often, this fallacy arises when we advocate for a particular objective, but offer only generalized support for that objective that could equally well support an alternative approach. An irrelevant conclusion may also be called a *non sequitur*.

Example: "My aunt wants to move somewhere warm and buy property for her retirement. She also wants to avoid a high property tax. She had been thinking about Texas, but the property taxes are quite high there. Therefore, she shouldn't move to Texas – she should move to Florida."

Explanation: Here, the premises (my aunt wants to move somewhere warm, my aunt wants to avoid a high property tax, and Texas has a high property tax) *do* support the conclusion that my aunt should *not* move to Texas. But they *don't* support the conclusion that she *should* move to Florida. In the first place, we aren't told whether Florida is warm and whether Florida charges a high rate of property tax. But even assuming that Florida is warm and does not charge a high rate of property tax, the premises don't tell us why my aunt should move to Florida, as opposed to Arizona, New Mexico, Georgia, Alabama, etc. Therefore, this part of the conclusion is a *non sequitur;* it is logically irrelevant to the premises.

Example: "There is no such thing as a leaderless group. Although the style of leadership may change depending on the situation, a leader will always emerge or no task would ever be accomplished."[8]

Explanation: When we put this argument into syllogistic form, the fallacy becomes clear. The conclusion is that *all* groups have leaders. In support of that conclusion, the author offers the premise that if a leader did not emerge, no task would be accomplished. But this premise merely establishes that a group must have a leader *if* it is to accomplish a task. It does not establish that *every* group must have a leader. There could well be (and probably are) groups that never accomplish any task. Therefore, the premises "miss the point" and the conclusion is irrelevant to the rest of the argument.

4. False Cause. This fallacy consists in treating something as a cause that is not, or should not be assumed to be, a cause. Most commonly, the mistake is in assuming that A caused B simply because A preceded B.

Example: "Underground nuclear tests in Nevada in 1951 precipitated dramatic climatic change in the Southwest. In that year alone, average annual temperatures across the region rose over two degrees Fahrenheit."

Explanation: It is notoriously difficult to predict or explain weather patterns and climate changes. This particular heat wave may have been precipitated by any number of factors, and the cause may never be known. This is not to say that it's *impossible* that underground nuclear testing caused or helped cause the increased heat. But without any evidence of a *specific causal connection* between the testing and the increased temperature, we have no reason to assume one.

Example: "The defendant fled the state just hours after the crime was committed. Therefore, he was clearly involved in one way or another with its planning or execution."

Explanation: The assumption here is that one thing (the defendant's decision to leave the state at a certain time) was caused by something that immediately preceded it (the crime). But the mere fact that one thing precedes another is not enough to prove causation. Certainly many people left the state shortly after this crime was committed. Should we assume that they were *all* criminal accomplices?

5. Overzealous application of a general rule. This fallacy occurs when we apply a generalization to an individual case that it does not necessarily govern. The mistake often lies in failing to recognize that there may be exceptions to a general rule.

Example: "Sixty men can do a job sixty times as quickly as one man. One man can dig a post-hole in sixty seconds. Therefore, sixty men can dig a post-hole in one second."[9]

Explanation: The problem here is with the failure to recognize that not all jobs can be done more quickly by sixty men. Although the general principle may be true, there are exceptions to the rule (like digging a post-hole). Here, the major premise (the first sentence) is overzealously applied to a situation it does not properly govern.

[8] *See id.* at 135.
[9] *See id.* at 154 (citing AMBROSE BIERCE, THE DEVIL'S DICTIONARY)

Example: "The First Amendment guarantees freedom of speech. Therefore, our client can not be held liable for anything she has said."

Explanation: The First Amendment does not give an absolute, unqualified right to free speech. For example, the client could be liable in tort if her words defamed someone. Here, the major premise (the first sentence) is overzealously stated without regard to several important exceptions qualifying the general rule.

6. Hasty Generalization. This fallacy is the converse of the preceding one. It occurs when we move too quickly to establish a broad principle or general rule based on specific factual observations.

Example: "They say deep-fried food is bad for you. Nonsense. I've been eating corn dogs and french fries my whole life, and I'm in perfect health."

Explanation: The speaker could be lucky, genetically gifted, or blissfully ignorant of the cholesterol slowly hardening in his arteries. But even if he lived to a hundred and two, his continued good health would not be enough to displace decades of well-documented medical and scientific knowledge.

Example: "In the present case, the dog that attacked the small child clearly had a 'vicious propensity.' Two years earlier, that same dog had bitten a postal worker who came on the property to deliver the mail."

Explanation: Here, the premise is that the same dog that bit the child had bitten a postal worker two years earlier. The conclusion is that the dog has a "vicious propensity." Without some strong precedential support, this argument would almost certainly fail in court. Two incidents in the span of two years hardly seems enough to establish a "propensity." This argument makes a hasty generalization from two quite possibly isolated events.

7. Circular argument. This fallacy occurs when one assumes the truth of what one seeks to prove in the very effort to prove it. In other words, an argument is fallacious when the conclusion lies buried in the premises used to reach that conclusion. This is also known as *begging the question*. Question-begging arguments often mask themselves in clever rhetoric. They can be easy to miss because they often sound good. Read these examples closely, and see if you can identify why each is fallacious before you read the explanation immediately following.

Example: Three bank robbers are dividing up the proceeds from a recent heist. The biggest, burliest, robber is sorting hundred-dollar bills in three piles between them. "One for you, and one for you, and two for me…One for you, and one for you, and two for me…" Another robber protests, "How come you get two and we only get one?" "Because I'm the leader." "Well, how come you're the leader?" "Because I've got twice as much money as either of you."

Explanation: Here, the *conclusion* (I get the most money) is supported by the *major premise* (the leader gets the most money) and the *minor premise* (I'm the leader). But it turns out that the *minor premise* (I'm the leader) depends on the truth of the *conclusion* (I get the most money). So if the robber hadn't assumed from the outset that he was going to get the most money, the whole argument would collapse. The argument is "circular" because it assumes the very thing that it seeks to prove.

Example: Plato wrote: "We must accept the traditions of the men of old time who affirm themselves to be the offspring of the gods – that is what they say, and they must surely have known their own ancestors. How can we doubt the word of the children of the gods?" [10]

Explanation: Plato's *conclusion* is that some ancient humans were the children of the gods. His *premises* in support of that conclusion are that (1) they said so themselves, and (2) one cannot doubt the word of the children of the gods. But note that these premises only lead to the conclusion if we also assume that the people who *said* they were the children of the gods *were* the children of the gods, and this is exactly what Plato is trying to prove. His argument sounds good, but it doesn't establish anything as a matter of logic.

Example: "The Supreme Court's power of judicial review is inherently undemocratic. When unelected judges reign supreme in the exposition of the Constitution, it cannot be said that we have a government 'of the people, by the people, and for the people.'"

Explanation: Again, the speaker is assuming the truth of what she is trying to prove in the very effort to prove it. If you look at these two sentences closely, you will see that they are essentially paraphrases of one another. Because the second sentence is longer and more complex, it tends to trick us into thinking that it is a logically distinct idea – but it is not.

8. Complex Question. This fallacy occurs when the question itself is phrased in such a way as to presuppose the truth of a conclusion buried in that question. The solution is generally to root out the buried assumption by "dividing the question."

Example: "Why is the free market so much more efficient than government regulation?

Explanation: This question presupposes that the free market *is* more efficient than government regulation. It may not be. In order to avoid this fallacious assumption, the speaker would need to "divide the question" as follows: "Is the free market more efficient than government regulation? If so, why?"

Example: "Isn't it true that your sales increased dramatically after these misleading advertisements were published?"

Explanation: This question presupposes that the advertisements were misleading. Either a yes or a no answer might suggest that the witness had done something wrong. Opposing counsel should object to the question, and ask that it be "divided" as follows: "Isn't it true that your advertisements were misleading? Isn't it true that your sales increased dramatically after these advertisements were published?"

9. Ambiguity. When we use a key word or phrase to have two or more different meanings in the same argument, we commit the fallacy of ambiguity. Because many words and phrases are naturally ambiguous (have two or more meanings, or even a range of meanings), this fallacy often escapes notice.

Example: "An elephant is an animal. Therefore, a small elephant is a small animal."[11]

[10] *Id.* at 138 (citing PLATO, TIMAEUS).
[11] *Id.* at 144.

Explanation: The word "small" is a relative term; its meaning is not fixed and unchanging. When it qualifies "animal" it has a different range of meaning than it has when it qualifies "elephant." Thus, the seemingly logical argument is fallaciously ambiguous.

Example: Jonathan Swift said: "No man will take counsel, but every man will take money; therefore, money is better than counsel."[12]

Explanation: The problem here is an ambiguity in the word "take." To "take" counsel means to listen to and heed advice. To "take" money means to accept a gift of cash. To understand why this equivocation between two meanings is fallacious, see what happens when we use one meaning of "take" consistently throughout the argument: "No man will listen to and heed advice, but every man will listen to and heed money. Therefore, money is better than advice."

10. Composition. We commit the fallacy of composition when we mistakenly impute the attributes of a *part* of a whole to the *whole* itself.

Example: "A strand of rope is weak, and cannot possibly support the weight of a full-grown person. A rope is nothing but a collection of weak strands. Therefore, a rope cannot possibly support the weight of a full-grown person."

Explanation: This argument is fallacious because it assumes that a collection of strands (the rope) must share the attribute possessed by each individual strand (weakness). If this were true, we would have no use for rope!

Example: "The prosecution has offered nothing but circumstantial evidence. As we have seen, not one of these pieces of evidence conclusively proves that my client committed the robbery. Therefore, the prosecution has not carried its burden of proof beyond a reasonable doubt."

Explanation: This argument is fallacious because it imputes an attribute of each individual piece of evidence (insufficiency to prove guilt beyond a reasonable doubt) to the totality of the evidence. However, the sum of the evidence – considered together – may very well prove guilt beyond a reasonable doubt.

11. Division. This fallacy is the reverse of the fallacy of composition. We commit the fallacy of division when we mistakenly argue that attributes of a whole must also be present in each part or constituent of that whole.

Example: "A rope is strong, and can easily support the weight of a full-grown person. A rope is nothing but a collection of individual strands. Therefore, a strand of rope is strong, and can easily support the weight of a full-grown person."

Explanation: This argument is fallacious because it assumes that each composite part of a rope (a strand) must share an attribute possessed by the rope as a whole (strength). Note that this fallacy is the mirror image of the fallacy of composition.

Example: "The spotted owl is disappearing. This animal is a spotted owl. Therefore, this animal is disappearing."

[12] *Id.* at 153.

Explanation: The problem here is that what is true of the entire species (that it is disappearing) is not necessarily true of each member of that species.

12. Argument from Ignorance. An argument is fallacious when it maintains that a proposition is true because it has not been proved false or false because it has not been proved true.

Example: On the Senate floor in 1950, Joseph McCarthy said of a State Department employee suspected to be a Communist, "there is nothing in the files to disprove his Communist connections."[13]

Example: One's inability to disprove one's guilt cannot be taken to establish it. Such an inference is not just contrary to the values of the American justice system; it is also irrational.

Example: "The Big Bang theory is a complete and utter lie. This 'theory' has been bandied about for decades and no one has ever been able to point to any conclusive proof."

Example: Here, the absence of conclusive proof does not establish that a theory or proposition is false. It merely establishes that the theory or proposition is still open to some debate.

13. Attack Against the Person. This fallacy occurs when the thrust of an argument is directed, not at a conclusion, but at the person who asserts or defends it. This is sometimes referred to as an *ad hominem* argument.

Example: A lawyer tells a jury that evidence of a witness's criminal past *proves* that the witness was lying.

Explanation: Evidence of this kind may be relevant to establishing the witness's general credibility (or lack thereof), but it does not independently *prove* that the witness was lying on this occasion. In common legal parlance, this evidence is "probative, not dispositive."

Example: During closing argument, a defense lawyer does not respond to the evidence and legal arguments offered by the plaintiff's attorney, but instead characterizes the plaintiff's attorney as an untrustworthy "ambulance-chaser" who is only out to collect his contingent fee.

Explanation: Even if this characterization is correct, it has no bearing on the evidence and logical arguments offered by the plaintiff's attorney.

14. Argument from Force. An argument is fallacious when it substitutes veiled threats for logical persuasion or when it asserts that something must be the case because "that's just the way things are."

Example: White House Chief of Staff Howard Baker once opened a cabinet meeting over allegations of misconduct on the part of Attorney General Ed Meese as follows: "The President continues to have confidence in the Attorney General and I have confidence in the Attorney General and you ought to have confidence in the Attorney General, because we work for the President and because that's the way things are. And if anyone has a different view of that…he can tell me about it because we're going to have to discuss your status."[14]

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[13] *Id.* at 134 (citing RICHARD ROVERE, SENATOR JOE MCCARTHY)
[14] *Id.* at 130 (citing *White House Orders Silence on Meese*, WASH. POST, Apr. 29, 1988).

Explanation: Note that Mr. Baker did not provide any reasoned explanation for his conclusion that the other cabinet members should have confidence in the Attorney General. This argument substitutes a thinly veiled threat for the use of reason.

15. Appeal to Emotion. This fallacy occurs when expressive language designed to excite an emotion like outrage or pity is used in place of logical argumentation.

Example: "It is time to put an end to these 'creative' accounting practices. Millions have lost their pensions due to the excesses of these corporate elites. Hopes have been dashed. Lives have been ruined. This cannot be allowed to continue. For all these reasons, I urge you to find the defendant guilty as charged."

Explanation: The social consequences of corporate abuses are irrelevant to the question of this particular defendant's purported liability. If this defendant is not liable, then she should not be punished for the misconduct of others.

Example: "Ladies and gentlemen of the jury, if found guilty, my client faces 20 years in prison. But I ask you, can you in good conscience send a devoted husband and father of four children, a man who has dedicated his life to providing for his family, who has participated actively in his church, and who given over 10% of his income to charities, to prison for such a length of time that he will not be able to watch his children grow up or support them financially through their college years?"

Example: Again, the defendant's character is irrelevant to the question of his liability. Here, counsel is appealing to the jury's pity instead of offering a logical argument in support of her client.

Congratulations! You are now familiar with the fifteen types of fallacy that most commonly occur in legal writing and advocacy. By actively avoiding these fallacies in your own work, and exposing them in the work of your adversaries, you will continue to develop and strengthen the powerful tools of "pristine logic" that all successful attorneys employ.