THINKING CLEARLY, WRITING WELL

A WORKBOOK FOR A COMBINED COURSE IN WRITING AND LOGIC

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1. GETTING STARTED

You are beginning a course that is meant to build on your previous work in English 101 but now with a greater emphasis on argumentation. What we call logic is simply a tool for recognizing the difference between a case or argument that works because the evidence provides adequate support for what is meant to be proved and one that only looks like it does. In practice this means being able to tell whether a case works solely because of its pattern (what we call deductive reasoning) or because the evidence itself makes the conclusion sufficiently likely to be true (non-deductive or inductive reasoning).

The roots of what we work with today are in ancient Greece in the time of Plato and Aristotle. In the cosmopolitan city of Athens a judicial system had developed which allowed citizens the right to charge each other not only with criminal behavior but with actions that involved property rights. However, it was a system without lawyers or the safeguards we might take for granted today. Individuals were called upon to defend themselves in front of a jury of fellow citizens, and a skill in public speaking could make the difference not only between wealth and poverty but between life and death. This created a market for foreign-born experts (the sophists) hired by parents to teach young people how to handle themselves in these new situations.

The obvious problem was that too often, as the complaint against them had it, these experts simply provided tricks to make a bad case seem like a good one. In an effort to correct this situation, the philosopher Aristotle attempted a more systematic study both of how good arguments work and the most typical moves used to make a bad case look good. His work was taken over in the elaborate
system of public education developed in the Roman Empire, was maintained through the Middle Ages, and remains with us today as an important part of whatever we have in mind when we talk about “critical thinking.”

In many respects our present situation in the United States parallels the situation in ancient Athens. Politicians attempt to win votes and companies attempt to sell products by attempting to convince the voter or the consumer to make decisions based on often misleading evidence. We are constantly involved in what might well be called a guerrilla war of words. The primary goal of this course is to increase the chances of your making a reasonable decision.

In two crucial respects what you will learn here might actually go against things you were taught earlier. For your own writing, for instance, we will be looking at how professional writers do their job, which in no way resembles the five-paragraph approach often taught in English 101. For how you read we will attempt to unlearn what are often the tricks suggested, such as ignoring connecting words such as "if" or "because," as well as a very natural tendency to judge the value of a case in the basis of how much you agree with individual statements presented, regardless of how they are connected (so often with words like “if” and “because”).

Some parts of the course are going to be considerably more difficult for a majority of students. The material on deductive reasoning, for instance, can be quite challenging, especially for those of us who are more visual than verbal in the way our minds work. However, learning to see how ideas are put together so that, for instance, there is no way we could be wrong about a conclusion (what is meant to be proved) if we are not
wrong about the evidence offered (what we call the premises for that conclusion) will be a survival skill in the guerrilla war of words.

Is our goal here learning how to win an argument? Not at all. Whether someone agrees with you or not depends on factors well beyond your control. What matters is that you can see what is needed for a good case.

MORE ABOUT MEANING

One thing to understand right off is that, just as facts really do not speak for themselves, no piece of writing (what we call a text) can interpret itself. Things we see happen (supposed facts, then) make sense only in a context that may not be obvious. Things we hear said or see presented in writing also make sense only in a context that initially is a culturally influenced interaction.

Why is this important? A key reason is that too often students forget that a dictionary is less a rule book than it is a history lesson. What a word means depends on how it is understood in a specific setting. An example: a little before 1800 the states making up the American republic agreed to an amendment to the new constitution that said "A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed." One of the major issues in current political debate is whether it would then be unconstitutional to deny individuals the opportunity to own any kind of firearm they want.

Think which of the following interpretations you agree with.
(1) The phrase “keep and bear arms” is limited to the type of weapon in use before 1800, muskets and one-shot pistols.

(2) “Arms” is a generic term that applies to assault rifles, even if they did not exist before 1800.

(3) “Keep and bear arms” means that individuals should be allowed not just to own guns that might be locked up at home but to carry them in public, whether concealed or not.

Let’s take this a step further. Regardless of how we understand the scope of the phrase “keep and bear arms,” is talking about this as a right really in the same category as the things that appear in the First Amendment about free speech and freedom of religion? Is denying me the right to carry an Uzi when I go out on the street (common enough in Israel, unthinkable in Japan) in any way like not letting me attend the church of my choice?

No, going to the dictionary will not settle this. In time the Supreme Court may come up with a definite ruling, but it is not at all likely that the controversy over gun control would come to an end, any more than the controversy over abortion came to an end when the Supreme Court ruled on it in 1973. Why is that? In part it is because even members of the Supreme Court disagree on how much a ruling on contemporary problems is meant to reflect whatever was the intention of the individuals composing the Bill of Rights.

This is quite apparent in the ruling on abortion when the Court invoked the concept of privacy in the sense of personal decisions that a government may not restrict. The term itself does not appear in the Constitution, but a string of previous decisions were cited to support its use.
So, was the Supreme Court just interpreting the Bill of Rights or was it going further? If so, might we expect the Court to backtrack under political pressure to do so.

Of course, this look at political controversies seems almost trivial when compared with controversies dealing with how to understand supposedly God-given commands found in the Torah or the Gospels or the Qur’an. Can logic itself help us get at what any text “really” meant to its author? No, not at all. But what it can do is make us much more aware of how to talk and write with greater precision so that our own texts (the things we write) will be less likely to be misunderstood.

THE TRIPLE-A RULE

To get at this result I am proposing another idea to balance out the point that no text interprets itself. This is the rule that in speaking or writing your audience affects your argumentation. In college writing you are not just expressing various thoughts and leaving it up your reader (your professor, let’s say) to get at your meaning. Instead, you are thinking through what can be reasonably taken for granted by your reader and what should be spelled out in sufficient detail. This calls for thinking through both what we call presuppositions (basic assumptions not otherwise expressed) and implications (things that follow).

The abortion controversy has offered striking examples of this. In the 1988 election debate between George Bush and Michael Dukakis, President Bush had supported the stand that abortion should be illegal. His opponent then asked whether this implied that the woman getting an abortion should be prosecuted. The President very
uncomfortably admitted he had not thought this through. (In 2016 there was a replay of this situation when Donald Trump, questioned about the criminal liability of the woman obtaining an abortion, initially took the position that she would have to be punished in some manner but later recanted it.)

Remembering that your audience does affect your argumentation, you should attempt to avoid presenting what could be a self-destructive case. Above all, this means being as consistent as possible.

In addition, it means being able to express the same thought in different ways. Some of what we will be doing later involves testing whether slight changes in wording would mean that the idea itself is now different. Being able to paraphrase a text is one of the important skills we will be looking at shortly.

THE PROBLEM OF ORIGINALITY

One thing that you may never do is simply appropriate someone else’s thoughts and present them as your own. That is what is called plagiarism, a form of cheating that can bring serious academic penalties. The key test here is to know the difference between what is typically called common knowledge and what is something distinctive expressed by one or another individual.

In a college paper you are ordinarily expected to note your sources very specifically. No, you do not have to have a source for something everyone (or at least everyone in a particular field of study) would be presumed to know, like the fact that Columbus originally sailed in 1492. However, the idea that he might himself have been Jewish looking for a new homeland after the suppression
of both Islam and Judaism in Spain is quite distinctive (it has been promoted by Jewish historian Elie Wiesel) and it would be plagiarism to present it just as something you thought up on your own.

Most of your writing assignments in this course call on you to either make a case of your own or respond to someone else’s case. In doing so you are expected to present original work, not just repeat what you might find elsewhere. Obviously what you come up with may very well be the same as what I read in papers by other students, but it is very much a matter of how you put things together. I should be hearing your own voice, not someone else’s. This will often be in the choice of language or the way in which you stress one or another point.

How might I think there is a problem, that you are not in fact doing your own work? Many instructors subscribe to a service that compares a submitted paper to what is in a particular data bank. Often enough, I simply enter a piece of text into Google or another search engine and see what turns up (just changing a word here and there will not be enough). But one thing I have done is just ask someone to explain what he meant, especially when he or she is using some very distinctive terms. You do not really want to be in this situation.

A SUGGESTED EXERCISE

Write a paragraph in which you suggest why your instructor should look forward to your work in the class. The write a paragraph which you might post about yourself on a dating site. How does the difference in your intended audience affect the kind of argument you present for acceptance?
2. THE TERMS WE USE IN LOGIC

In a logic course we use many of the same words that we have in a conversational setting, but their meaning can be quite different. For example:

- **argument** In an ordinary conversation we are talking about a disagreement (two people are having an argument). In logic we are talking about using one idea to prove that another is correct (a person is presenting an argument). *Equivalent terms in use: case, reasoning.*

- **conclusion** In an ordinary conversation we are talking about how people end what they are saying (the conclusion of a speech). In logic we are talking about the point being proven (the speaker's conclusion from the evidence offered). *Equivalent terms in use: inference, the point being proved.*

- **valid** In an ordinary conversation we are talking about something that is true or acceptable (a valid passport, a valid statement). In logic we are talking about a special pattern in an argument that makes it impossible to be wrong about the conclusion if you are correct in your premises. *There is no equivalent term in this course; do not confuse "valid" with "true" or with "strong."*

In reading anything that contains an argument, we need to sort out those things being said that are not strictly part of the reasoning (neither premises nor conclusions). All such statements can be seen as background, and these would include statements of a problem to be solved or explanations of how something got to be the way it is. Also, we need to recognize even when there is an argument how it fits into the overall structure of a case. In particular, we can talk about a rebuttal or counterargument when the speaker or writer's intention is to strengthen a case by answering an objection.
• *Lee passed because he studied hard.* This is not an argument, since we take for granted Lee passed and we just want to say how it happened

• (1) Teenage violence is a problem. (2) We should restrict what the media present, since (3) teenagers seeing violence on TV or the movies become desensitized to it. Granted, (4) there is a right to free speech, but (5) we already have limits on pornography and libel so that we see (6) free speech is not something absolute. Statement 1 is background, statements 5 and 6 present a rebuttal to the objection expressed in statement 4, and statements 2 and 3 make up the actual case.

In an argument the premises (or reasons or evidence) can be set up in different ways.

• Premises can depend on each other (we can call this a compound argument), which is typically what happens when we have a case that is intended to be deductively valid. *Anything interesting is fun, and logic is interesting, so logic is fun.*

• One premise is the reason for still another being true (we can call this a complex argument), and the one that is both a premise and a conclusion is called an intermediate conclusion. *Logic is easy because it is fun, and therefore it is interesting (the intermediate conclusion is the idea that logic is easy).*

• We can have independent premises for the same conclusion, and for practical purposes we should look at the reasoning as though there were separate arguments. *Congressman Snort is familiar with global policy. Also, he is a very intelligent person. Therefore, I support his election as a senator.*

To make life even more confusing, we need to recognize what are implied premises or conclusions--points that the speaker or writer expects to be understood by the audience. *Logic is too hard, therefore it should not be a required course.* The implied
premise is that a subject that is too hard should not be required. In deciding the strength of a case, we need to ask whether this is a safe assumption (something that does not really require further proof).

Fallacies are mistakes in reasoning. Formal fallacies are mistakes that involve a misuse of a logical pattern. For instance, once we know that all students are ambitious, we can then talk about Alice, and if we know she is a student we can infer that she is ambitious. However, it would be a mistake (a fallacy) to work backwards and say that if we know that Alice is ambitious we can be sure she is a student.

Informal fallacies are mistakes in reasoning that do not otherwise involve a misuse of a pattern. An example would be saying that symbolic logic must not be very important for a computer science major since your best friend, who is not a computer science major, does not think it is. This is an instance of a fallacious appeal to authority (your friend is presumably not an expert on what is or is not important for that major).

A key point is that in attempting to understand someone's case we should always keep in mind what is called the principle of charity: when something could be understood more than one way, we should not accept the interpretation that makes the speaker or writer look foolish. This is particularly important when a point is being made ironically or for effect. Of course I do not believe in free speech. That is why I risked my job rather than accept my editor's demands to tone down any references to the present administration. (The speaker clearly does believe in free speech.)

WHAT WE MEAN BY DEDUCTION

*Deduction* is one of those terms that can be misleading because of differences between its technical use in a logic course and how it is used in other settings. Sherlock Holmes, for instance, did not
engage in deductive reasoning in a technical sense even though he often deduces who is the culprit from a set of clues.

So what is this technical sense? It is this: one statement can be deduced from one or more other statements when there is a pattern in how they are stated that makes it impossible for the conclusion to be false when its premises are true. For instance, given that everything black is sweet and salt is black, it follows that salt is sweet. However, if we said that everything sweet is white and sugar is white, it would not follow that sugar is sweet. The statement that salt is sweet is what we would call a valid conclusion (even though it is false) and the statement that sugar is sweet would be an invalid conclusion (even though it is true.)

Please note we are not talking about psychological processes--how we actually think and thus how we make our inferences on the basis of evidence available to us. Instead, by using the word reasoning we are looking at how statements (which do not have to be expressed as separate sentences) are interconnected. In propositional logic (when we work with the variables P, Q, and so on) the relationships are between entire statements. In predicate or quantifier logic we are often working with just parts of the statements (as in the way in which we handle the terms black, sweet, sugar, and salt in the examples).

In formal logic we are interested in patterns that could be represented just with letters (what we in fact do with symbolic logic). In informal logic we are more concerned with the broader picture of reasonable and unreasonable inferences, and the reasonableness (or probability) of a conclusion does depend on the content of the premises (the statement of the evidence) in a way that does not happen with formal logic.

The term valid, then, is not the same as the term true, but instead refers to an entire argument (or its conclusion) when because of the pattern true premises could not imply (or entail) a false conclusion. For there to be a false conclusion in a valid argument there would also have to be at least one false premise. Still another way of putting this is that it would be inconsistent to
have true premises and a false conclusion, and this is an idea we make use of in testing for validity.

What you probably already recognize is that an argument can exist without disagreement since, in the sense in which we use the word in logic, it refers simply to any arrangement in which a statement (the conclusion) is said to be true, either because it is a tautology or because having it be false would be inconsistent with other statements presented as its premises. Also, a conclusion does not have to be expressed at the end of a sentence or paragraph: "Jane must have passed because she did study and anyone who studied would pass" is an argument in which the conclusion is expressed first.

Now if we have an argument but it is not meant to work just because of its pattern but instead because of some other connections between the ideas expressed we can describe it as inductive rather than deductive. Inductive arguments can be seen as involving reasoning based on the similarities of things or events (reasoning by analogy), reasoning based on inferences from a limited group to a much larger one (inductive generalizations and statistical arguments), reasoning about what is likely to take place in the future or have taken place in the past (think of explanations such as those a jury is called up to make in a trial), and especially reasoning that sets out to decide cause and effect relationships.

We now go one step further. A deductive argument with the right form or pattern is considered to be valid, regardless of the truth of the premises. When the premises are in fact true and the argument is valid, then we call it sound.

Inductive arguments can be seen as strong (the conclusion is more likely to be true because of support provided by the premises) or as weak. When an inductively strong argument does have true premises, we call it cogent.

How strong does an argument have to be to be acceptable? A good rule to start with is that the more is at risk, the more likely you want the conclusion to be correct. For instance, in a civil
case (the kind that occurs when one person sues another) a jury is asked to decide between two sides based simply on the preponderance of the evidence, and typically there can be a split decision among the jurors. However, in a criminal case there is obviously more at stake (it could be a person's freedom or possibly his life), and so the jury is asked to decide unanimously on the basis of there not being a reasonable doubt about their verdict. In everyday life, you would expect a stronger argument about where to transfer for the last two years of college than you would about what movie to see next weekend.

All arguments then can be classified as valid or invalid. If valid, they are sound or unsound. If invalid, they are strong or weak and then, depending on the truth of the premises, cogent or not cogent. Note that a strong argument by definition cannot be valid, and a valid argument by definition cannot be strong.

Some additional notes: an argument that misuses a form (what we will call a formal fallacy) may not be valid but then we need to look at it in terms of inductive strength. Also, an argument may be technically sound (valid with acceptable premises) but still not a "good" argument because of some informal fallacy (another kind of mistake in the reasoning but one not related to the pattern). Most typically this could be a problem of what we call begging the question, when the premises would be acceptable only if someone already accepted the conclusion as true.

**REVIEW QUIZ**

Decide which of the following statements are true and which are false. Explain how you would know.

1. Logic is concerned with how well arguments work in taking us from correct information to a conclusion that is either definitely true or has a high probability of being so.
2. A deductively valid argument with correct information in the premises could still have an incorrect conclusion.

3. If an argument is inductively weak it must be because the information in the premises is incorrect.

4. Having a false premise automatically makes a deductive argument invalid.

5. Invalid arguments can still be cogent.

6. Saying an argument is not deductively valid means that it could not be a good argument otherwise.

7. By definition no valid argument will be inductively strong.

8. A cogent argument could still have a false conclusion even though all the premises are true.

9. For a sound argument the premises must all be true.

10. For a valid argument each premise must be true.

**CHALLENGE EXERCISES**

1. In mathematics the difference between a theorem and a conjecture is whether deductive proof exists. The Pythagorean Theorem, which says that the area of the two squares constructed on the shorter sides of a right triangle will add up to the same as the area of the longest side, does have such a proof. Goldbach’s Conjecture, which says that every even integer greater than 2 can be written as the sum of two prime numbers, does not. What makes the possibility of proof so different?

2. At their first meeting Sherlock Holmes tells John Watson that he can tell that Watson had been in Afghanistan, then later explains how he knew.

   *I knew you came from Afghanistan. From long habit the train of thoughts ran so swiftly through my mind, that I arrived at the conclusion without being conscious of intermediate steps. There were such steps, however. The train of reasoning ran, ‘Here is a gentleman of a medical type, but with the air of a military man.*
Clearly an army doctor, then. He has just come from the tropics, for his face is dark, and that is not the natural tint of his skin, for his wrists are fair. He has undergone hardship and sickness, as his haggard face says clearly. His left arm has been injured. He holds it in a stiff and unnatural manner. Where in the tropics could an English army doctor have seen much hardship and got his arm wounded? Clearly in Afghanistan.' The whole train of thought did not occupy a second. I then remarked that you came from Afghanistan, and you were astonished.

Was this technically deductive or inductive reasoning?
3. TEXT AND CONTEXT

In conversation we can usually get at what someone means by paying attention to facial expressions, change in the tone of voice, and other cues that include the setting itself. When we are reading something, these cues are typically missing, and it is up to the reader to tell, for instance, whether a piece of text is meant to be taken literally as a record of what has happened or what is being proposed.

Read the following transcript of what President Reagan said on an open microphone on August 11, 1984: "My fellow Americans, I'm pleased to tell you today that I've signed legislation that will outlaw Russia forever. We begin bombing in five minutes." What was going on?

Actually the President was joking with sound technicians before actually going live. No one outside heard this, but the text was leaked and led to a brief military alert in part of the Soviet Union and vigorous condemnation by the Russian official news agency.

Obviously, this was never meant to be taken seriously, but it did become an issue in that the President was running for reelection.

On April 9, 2016 the Boston Globe issued a front page dated April 9, 2017 with the headlines “DEPORTATIONS TO BEGIN President Trump calls for tripling of ICE force; riots continue.”

It goes on to describe the actions of the newly elected President as well as their worldwide consequences. Although too late for April Fool’s Day, it was obviously an unusual editorial statement opposing Mr. Trump. The question, though, was whether less informed readers understood what was happening.
How could you tell from the text in either case that language is being used in a way different from simply reporting an event, past or future? The expectation is that a mature reader will see what is going on. Something presented ironically or as a piece of satire, for instance, will not be taken literally.

But let’s look at this very familiar text from the Gospels: “And if your eye causes you to stumble, gouge it out and throw it away. It is better for you to enter life with one eye than to have two eyes and be thrown into the fire of hell.” (Matthew 18:9) Was this a serious demand to mutilate yourself if you find yourself looking at the wrong things, whatever those might be? Apart from the peculiar logic that only one eye is at fault, scripture scholars uniformly insist that this an example of a familiar Mideastern style of expression, exaggeration not to be taken seriously.

Most but certainly not all experts also note that in general any tendency to read the Bible literally is a mistake. Ancient literature did not go by the same standards we take for granted. Stories are told and retold with marked embellishment, not because they are accurate accounts but because they are intended to present a certain desirable picture of the characters they depict. The Greek historians did this with the supposed speeches of great military figures, for instance. In the same way, Christian scholars argue that many of the events of the Gospels (the Bethlehem story, for instance) are simply good story-telling. Jewish scholars have similarly come to look at the stories about Moses and his contest with an Egyptian pharaoh in the same way.

But let’s come back to what is expected of you as a student? You are called on to write a term paper. Are you allowed to deviate from whatever are the accepted facts of what has happened or what someone has said? The simple answer is no. Moreover, in a paper you are expect to document your sources and in doing so recognize the difference between reliable and unreliable sources.

STYLE
The best way to learn how to write well, whether for fiction or for non-fiction, is to read extensively. How does someone tell a story that interests you? How does someone make a point that you find convincing? Can you go ahead and do the same thing with your own stories or your own cases?

Of course, it is not really that simple. There are styles or fashions in writing, and like their counterparts in clothing or furniture they are cultural products that change over time. Perhaps the most significant differences between a style expected a century or so ago and what is expected now is the length of sentences and paragraphs and the choice of vocabulary. At a time when all students were expected to have studied classical Latin, which favored intricate sentences and a vocabulary that differed from everyday speech, there was the expectation that good writing would somewhat resemble Latin models.

An example is the famous “Cross of Gold” speech by William Jennings Bryan at the Democratic national Convention in 1896. A key issue had been whether the United States should use a fixed price for gold alone as the basis for its currency as opposed to using both gold and silver. Bryan opposed the gold standard. These are the closing paragraphs of a speech still regarded as one of the greatest pieces of oratory of modern times.

You come to us and tell us that the great cities are in favor of the gold standard; we reply that the great cities rest upon our broad and fertile prairies. Burn down your cities and leave our farms, and your cities will spring up again as if by magic; but destroy our farms and the grass will grow in the streets of every city in the country.

My friends, we declare that this nation is able to legislate for its own people on every question, without waiting for the aid or consent of any other nation on earth; and upon that issue we expect to carry every state in the Union. I shall not slander the inhabitants of the fair state of Massachusetts nor the inhabitants of the state of New York by saying that, when they are confronted with the
proposition, they will declare that this nation is not able to attend to its own business. It is the issue of 1776 over again. Our ancestors, when but three millions in number, had the courage to declare their political independence of every other nation; shall we, their descendants, when we have grown to seventy millions, declare that we are less independent than our forefathers?

No, my friends, that will never be the verdict of our people. Therefore, we care not upon what lines the battle is fought. If they say bimetallism is good, but that we cannot have it until other nations help us, we reply, that instead of having a gold standard because England has, we will restore bimetallism, and then let England have bimetallism because the United States has it. If they dare to come out in the open field and defend the gold standard as a good thing, we will fight them to the uttermost. Having behind us the producing masses of this nation and the world, supported by the commercial interests, the laboring interests and the toilers everywhere, we will answer their demand for a gold standard by saying to them: You shall not press down upon the brow of labor this crown of thorns, you shall not crucify mankind upon a cross of gold.

It is difficult to imagine anyone political figure today making a case for one side or another of a complicated economic issue that would read anything like this. It would be like expecting characters in a TV romantic comedy to talk like Romeo and Juliet in Shakespeare’s play. Our style is different: shorter sentences, fewer figures of speech, a less ornate vocabulary, and certainly fewer allusions to the Bible. Following the triple-A rule, we cannot assume as much with a contemporary audience as Bryan would have taken for granted with his.

THE GREEK AND ROMAN CONNECTION

Somewhere around sixty percent or more of our ordinary English vocabulary comes from Latin, either directly or through French,
as well as from Greek. Add in scientific and technical vocabulary and we are up to about ninety percent.

At a time when it was standard for all high-school and college students to have studied Latin and perhaps Greek as well, this would not be quite the problem it might be for a student today. Why? Think of the difference between “I knew what you were saying in your letter” and “I comprehended the import of your missive.” Apart from the fact we would seldom if ever actually use words like “import” and “missive,” the Latin-based “comprehended” lacks the immediacy of the word “knew.” If we were to use “understood” there is still something of a picture in the way the word itself is put together. Think of how you might want to get closer to something you want to see better, so much so that you are now standing under it. That is there is Latin as well with a picture of grabbing something (the meaning of the Latin *prehendere*).

A main difficulty is that classroom attempts to improve vocabulary typically fail to stress the context in which a word is appropriate. A student may too easily give in to the temptation to use a longer word that would seldom be used in ordinary conversation. Worse is reliance on a list of synonyms, the kind of thing that led one of my students to write that “the idea was very penurious” since he had seen that “penurious” was a synonym for “poor.”

However, using such words carefully can dress up a sentence. In part this is a psychological effect equivalent to someone in business dressing in a suit and tie to meet with a client. It adds a note of formality. However, just as wearing a tuxedo in the same setting would be rather peculiar, avoiding a simpler vocabulary altogether can be too much a distraction.

What about the papers you are called on to write in an academic setting? Term papers are still common enough in the classes you will take, especially in your upper division work, that you do need to note some fairly common expectations. One is that, just as you are to use certain standard typefaces with a word processor (not something resembling handwriting, for instance), you are ordinarily to avoid slang and the kind of informality you might use for a Facebook posting. For a philosophy paper the Latin and Greek are definitely more in play, as when you might say you are
writing about epistemological issues rather than offer the paraphrase more appropriate if you were talking to a friend. You might even talk about parameters (not to be confused with perimeters) and paradigms, not just to show off but to use terms that in effect become a kind of shorthand in expressing more complex thoughts.

A QUESTION OF TONE

In an assigned paper you are making a case for something. Expressions such as “I think” or “I believe” or “in my opinion” are completely unnecessary, as though you feel a need to apologize for saying something not everyone will agree with. In general, a first-person tone is inappropriate unless for some reason your personal experiences are an integral part of the case itself.

In general, what you write should be sufficiently complete so that it can be read without having to know anything more about your personal beliefs or feelings, much less anything more about your own background. This sometimes proves difficult for a student. It is a natural tendency to support a position you already believe in and to find flaws in a position you do not believe in. Assigned to evaluate a case or to provide a good case when in fact you do not personally accept it, it will be difficult to get past your initial biases. However, this too is a skill to be developed.

TROPES AND MEMES

Tropes were originally initially defined as figures of speech, especially familiar ones that can be overworked. The term has also now come to be used to describe stereotypical descriptions of a character or situation (think of all the wise-cracking private detectives you may have watched on television). To get some idea of what I mean, think of the adjectives that first come to mind when you hear terms such as “banker” or “politician.”
The term “meme” is one that has come into use in the last few decades to describe cultural items that catch on in such a way that, like genes in biology, they seem to exist just to perpetuate themselves. The might be the jingles or tunes you cannot get out of your head, the catchphrases or slogans that similarly almost seem to have a life of their own, the images (like a smiley face) that become almost unavoidable.

They are a reminder of how language works. In the paragraphs from Bryan’s speech about monetary policy there is a carefully thought-out strategy that identifies working people with Christ being taken out to his death. Lincoln, in his relatively short speech at the dedication of the cemetery for men killed in what was the bloodiest battle of the Civil War, similarly calls on the Gospel imagery of Christ’s sacrifice. Both were powerful speeches setting up a resonance with the attitudes and beliefs of those listening to them. They are powerful examples of what is called emotive language.

**SUGGESTED EXERCISES**

1. **Rewrite one or two paragraphs that you have already submitted so that as much as possible you have eliminated words that derive from Latin or Greek. Then take the same paragraphs and substitute such words for other expressions, especially prepositional phrases. In each case decide whether the results are as effective as what you wrote originally.**

2. **Take the second paragraph of the Declaration of Independence and as far as possible eliminate all emotive or loaded language. To what extent does the actual language suggest the intended audience?**
4. DEDUCTIVE PATTERNS

From the time of Aristotle the gold standard for reasoning was the syllogism (from the Greek for “saying things together”). His own example: all men are mortal and Socrates is a man, so Socrates is mortal. What made this work was setting up categories so that once we know anyone who is a man is mortal (will die sooner or later) and we put Socrates in that category (being human) there is no way to avoid having Socrates also in the category of things that are mortal. That is the classic instance of what I will term a perfect case: if the premises are correct, there is no way we can be wrong about the conclusion.

The term we used earlier was “deductively valid.” By definition, it is an arrangement of premises that rule out a false conclusion if they are true to begin with. Of course, this is also why in actual situations workable syllogisms are hard to come by. Apart from something like geometry, premises that do not have exceptions are rather hard to come by. The value of learning to work with them is more in the manner in which they get us out of the habit of judging an argument just on the basis of whether we agree with the individual statements making it up. I try to reinforce this by deliberately using statements that are not true.

*Anything black is sweet, salt is black, so salt is sweet.*

*Some apples are purple, anything purple is salty, so some apples are salty.*

The key is that the word the same in the premises (what is traditionally called the middle term) talks about everything in that category at least once. The fancy way of expressing this is to say that the term is distributed. The most common mistake in working with this kind of pattern reasoning (a formal fallacy, meaning it deals with a form or pattern) is the undistributed middle term (one that talks in both premises about only some of the things in a given category). An example:

*All Republicans are conservatives and Senator Snort is a conservative. Therefore, Senator Snort is a Republican.*
Note that here we only talk about some of the conservatives, not all of them. Senator Snort may well be a conservative Democrat.

There are various techniques for deciding whether a syllogism is actually valid. The easiest may be to go by the following rules.

Terms must be used in the same sense.

Nothing follows from two negative premises.

With a negative premise there has to be a negative conclusion.

Nothing follows from two particular premises (statements in which the subject is not about everyone or everything in a category).

With a particular premise there must also be a particular conclusion.

Nothing follows when the middle term is not distributed at least once.

The terms in the conclusion cannot be distributed (talking about everyone or everything in a category) if this did not happen in the premises. An example:

All Presidents have lived in the White House, no child has been President, so no child has ever lived in the White House. (The premise tells us only that Presidents are some of the individuals who have lived in the White House while the conclusion talks about everyone living there.)

The key: do not ask whether the premises or the conclusion are actually true, since validity is only about the pattern of the terms. However, if you do know that the premises are true but the conclusion is not (like the last example) you can be sure that the syllogism is not valid.
Syllogisms are about setting items up in categories. Now we look at the far more common patterns of reasoning that involve setting up conditions (or hypotheses).

Stripped down to the simplest examples, we are talking about statements that use either “if” or “only if.” The single word “if” sets up what we call a sufficient condition for a particular result.

*If Jack studies he will pass the test.*

We are hearing that this is at least one way we will see the result.

The phrase “only if” sets up what we call a necessary condition for something to happen.

*Jill will pass the test only if she studies.*

We are hearing what is required for her to pass, although by itself it may not be enough.

Now what is especially important is how ideas connect so that, even when we change the wording, logically we are given the same information. For instance, whether I say Jack is Jill’s brother or Jill is Jack’s sister I am expressing the same sibling relationship.

Now let’s look at how we can restate the logical relationships for sufficient and necessary conditions.

If Jack studies he will pass the test. Since one thing has to happen before the other we can just as easily say we will know Jack studied only if he passes the test.

In the same way we can say about Jill that if we know she passed the test then she must have studied.

Using letters instead of the words (what we do in symbolic logic) the story about Jack can be expressed as $S \rightarrow P$ while the story about Jill can be expressed as $P \rightarrow S$. Position here is crucial.
A conditional statement (one that can be restated with either “if” or “only if”) is not itself an argument. Nothing has happened yet. But if we use a conditional statement and then say something has either happened or not we have definite things following.

*If Jack studies then he will pass the test. He is studying. Therefore, he will pass.*

This is an example of a pattern that in the Latin used by medieval schoolboys was called *modus ponens* (the “put” pattern) or just MP.

*Jill will pass only if she studies. She does not study. Therefore, she will not pass.*

This is an example of pattern that was called *modus tollens* (the “take away” pattern) or just MT.

Now here come the possible mistakes or formal fallacies. Knowing that Jack did not study by itself will not prove he did not pass, since there are possible alternatives. We call this the fallacy of denying the antecedent (what follows the word “if” in a sentence such as “if Jack studies he will pass” or is the result expressed in “Jill will pass only if she studies”).

In the same way just knowing that Jill studied will not prove that she passed since all we have said so far is that she met a requirement for passing, but by itself it may not be enough for the intended result. We call this the fallacy of affirming the consequent (what follows “only if” in sentence such as “Jill will pass only if she studies” or is the result expressed in ‘if Jack studies he will pass”).

Again just using letters;

\[
\begin{align*}
S \rightarrow P, S, \text{ therefore } P & \quad \text{OK} \\
S \rightarrow P, \text{ not } S, \text{ therefore } \text{ not } S & \quad \text{not OK} \\
P \rightarrow S, \text{ not } S, \text{ therefore } \text{ not } P & \quad \text{OK} \\
P \rightarrow S, S, \text{ therefore } P & \quad \text{not OK}
\end{align*}
\]

Yes, things look and sound very much alike, which is why the fallacies here can seem so convincing. The difference is that in
the patterns that do not work we can imagine a script in which the premises remain the same but we add something that sets up an opposite conclusion. We call these counterexamples.

If Jack studies then he would pass, but he is not studying. However, it such an easy test that no one fails it, so Jack is still going to pass.

Jill would pass only if she studies, and she is doing that. But she still is not going to pass because it is a long test and she works too slowly to be able to finish.

APPLYING THE RULES WITH MORE ORDINARY PARAGRAPHS

The examples in any text, including this one, are very streamlined with the conclusion at the end and the premises expressed in a fairly standard way. In more ordinary situations there can be a great variety of ways to express the same thoughts.

With categorical reasoning just using a word like “apples” in a clause such as “apples are sweet” is usually intended as a generalization which could also be expressed as “every apple is sweet” “any apple will be sweet” or even “there is no apple which is not sweet.” These are all what we call universal statements.

Suppose we want to say only that there are examples of sweet apples. These will be what are called particular statements, and we could say “some apples are sweet” (which should not be read as implying that some apples are not sweet) as well as “there are apples which are sweet.” Watch, though, what happens when we say that only apples are sweet. This is the same as saying that anything sweet will be an apple (and nothing else).

So let’s imagine you are presented the following:

Apples must be purple, since only sweet things are purple and apples are sweet.
Apples are sweet, so they must be purple since all sweet things are purple.

Which, if either, is valid? Remember, whether any statement is actually true or false does not affect the pattern itself.

Let’s get away from the distraction involved by thinking about the actual color of an apple. What we are looking at in the first example is this pattern: all A are S, all P are S, so all A are P. The middle term in each premise only talks about some things that are S, so we have an example of the undistributed middle fallacy (not valid, then).

In the second the patterns is all A are S, all S are P, so all A are P. This is one of the two basic valid patterns. The other would be some A are S, all S are P, so some A are P.

With some manipulation every other statement in a valid argument can be transformed into one or the other of these two. How? Well, we cannot just say that knowing every A is P means that every (or even some) P is A, again a very common mistake. But saying “no A is P” can be restated as either no P is A” or “every A is a non-P.” Saying some “some A are P” can be rephrased as “some P are A” (but we cannot say “some A are not P” means that “some P are not A”).

In looking at hypothetical or conditional arguments keep in mind that the position of the clause expressing a condition can be either at the beginning or the end of a sentence. Nothing changes, for instance, when we say “Jack will pass if he studies” instead of “if Jack studies then he will pass.”

What otherwise matters is the different ways in which we can say that something is either a sufficient condition (enough for a result) or a necessary condition (required for a result).

For example, we might restate what we say about Jack as “Jack studying means he will definitely pass” while what we say about Jill could be “Jill needs to study in order to pass” or Jill cannot pass unless she studies.”
SUGGESTED EXERCISE

Decide which of the following arguments are valid. For those that are not, indicate the formal fallacy involved.

1. No logic class is fun. That's because only hard classes are fun and no logic classes are hard.

2. Some students are ambitious but lazy. No one lazy will work hard. Therefore, some ambitious students will not work hard.

3. Everyone famous is lucky. That's because famous people are rich and rich people are lucky.

4. Senator Snort is not an honest politician. Dishonest politicians get reelected, and Senator Snort has been reelected.

5. Diamonds are very hard, so only very hard things are expensive since diamonds are expensive.

6. Anyone who is smart plays chess, and some athletes do not play chess, so some athletes are not smart.

7. All apples are round. Anything round is sour. Therefore, all apples are sour.

8. If lions are vegetarians, then they do not eat zebras. Lions are not vegetarians, so they do eat zebras.

9. If logic is easy then it is fun. Logic must not be fun since it certainly is not easy.

10. If a test is long then it is always hard. This test is not long, so it will not be hard.

11. Logic is easy only if it is fun. Logic must not be fun since it certainly is not easy.

12. If Jill is lucky then she will pass the test. Jill did not pass the test, so she was unlucky.
A challenge question: Which of the valid arguments would be made invalid if we added the word “only” to one of the premises? Which of those that are invalid could be made valid if we did this?
5. APPLYING THE TRIPLE-A RULE

Whenever we talk we follow agreed-upon rules to make ourselves understood. We hardly ever think about these rules except when for one reason or another they are broken.

   Bob: How is the weather outside?
   Carol: It is a very blue sweater.

Do you think you know how Carol’s statement might be thought of as an answer to Bob’s question?

Imagine “Bob” and “Carol” as two computers programmed to respond to each other on an entirely random basis. “Bob” always asks a question, “Carol” always makes a statement. Each possible statement has some connection to each possible question, even if the connections are somewhat fanciful. Nonetheless, we would not be likely to think of the computers as having a conversation—as “meaning something”—in the way we say this when Bob and Carol are two human beings.

   Bob: How is the weather outside?
   Carol: It must be cold.
   Bob: Why do you think so?
   Carol: I looked out the window and saw a lot of people wearing sweaters.

Now imagine Bob and Carol as two people not in the same room, as could happen were they having a phone conversation. Carol presumably has not been outdoors, since ordinarily we would not report our personal experience by saying “it must be cold.” We understand Carol as stating an inference or reaching a conclusion.

We can restate Carol’s thinking in a single sentence.

   It must be cold outside because I looked out the window and saw a lot of people wearing sweaters.

Once there is an answer to Bob’s question of “Why do you think so?” we are able to say that Carol has presented an argument. Let’s say that Bob is skeptical.
Bob: *It might not be cold outside. People are wearing sweaters because you are at a prep school and it is a school regulation that students wear sweaters when they are on campus.*

Carol: *No, that’s not the way it is. I am away from school, and people here wear sweaters only when it is cold outside.*

Bob has presented a counterexample that takes advantage of the fact that Carol left what she said open to another interpretation. Carol’s reply is an effort to “close” her argument.

Bob might still be unwilling to agree with her, but at this point he would have to say that her reasoning was faulty but that her information was wrong.

We have already seen that in logic we make a very important distinction between the pattern in how the premises are put together and whether or not the premises are actually true. The story of Bob and Carol should cue us to something else. Most of the time we do not express ourselves so as to rule out any possible misunderstanding, and Bob’s demand that Carol “close” her argument seems rather odd. Let’s think why.

Paul Grice is a philosopher who has emphasized the existence of a number of rules that govern the way we actually converse. In Grice’s analysis the rules for “conversational implication” involve

(1) quantity—giving the right amount of information to communicate successfully;

(2) quality—expressing the truth;

(3) relevance—offering information that deals with the subject discussed;

(4) manner—following conventional rules that ensure clarity in expression.

In part this means that, like Carol, we continually have what are called suppressed premises, such as her understanding that cold weather is a necessary condition for a great number of people to be wearing sweaters. Until Bob asks her to defend herself, it would have seemed unnecessary (and possibly insulting) to point this out. For the same reason, it was hardly necessary for her to define her terms so that the word “sweater” might not be
confused with “jacket,” and it would have been very strange had Bob insisted that her statement about what people were wearing could be faulted because of such a possible confusion.

In formal writing we need to modify some of the rules that Grice discusses. The very fact that a text does not explain itself (as Carol was able to do over the phone) forces us to rethink how much can be left unexpressed. Applying the Triple-A Rule, we need to think about the background knowledge of the reader as well as possible differences from the writer in a basic set of values. The purpose of the text plays a considerable role in determining how much needs to be explained. For instance, a legal document or an intended piece of legislation should leave very little to chance. An essay for a philosophy class will be more exacting about conceptual precision than one done for some other course.

In just the same way writers have to have some understanding of the emphasis to be put on different points in their presentation. Possibly, depending on their audience, they will make more extensive use of examples or illustrations. They may have to offer a more fully detailed background to supply so that the significance of an issue can be understood clearly. They may need to concentrate more on the precise logical connections that they have in mind—in other words, on why their case is supposed to work—or they may assume that this is unnecessary and perhaps even counterproductive.

A CASE STUDY: SOCRATES ON HIS OWN BEHALF

The following is an excerpt from Plato’s Apology, the classic text in which the philosopher portrays how Socrates, his own teacher, responds to the jury in the penalty phase of his trial.

There are reasons why I am not grieved, O men of Athens, at the vote of condemnation. I expected it, and am only surprised that the votes are so nearly equal; for I had thought that the majority against me would have been far larger; but now, had thirty votes gone over to the other side, I should have been acquitted.

And so he [Meletus] proposes death as the penalty. And what shall I propose on my part, O men of Athens? Clearly that which
is my due. What return shall be made to the man who has never had the wit to be idle during his whole life; but has been careless of what the many care for—wealth, and family interests, and military offices, and speaking in the assembly, and magistracies, and plots, and parties. Reflecting that I was really too honest a man to be a politician and live, I did not go where I could no good to you or to myself, but where I could do the greatest good privately to every one of you, thither I went and sought to persuade every man among you that he must look to himself, and seek virtue and wisdom before he looks to his private interests, and look to the state before he looks to the interests of the state; and that this should be the order which he observes in all his actions.

Let’s pause for a moment. Write down the reaction you would have had to Socrates if you were one of the jurors who voted against him.

What shall be done to such a one? Doubtless some good thing, O men of Athens, if he has his reward: and the good should be of a kind suitable to him. What would be a reward suitable to a poor man who is your benefactor, and who desires leisure that he may instruct you? There can be reward so fitting as maintenance in the Prytaneum, O men of Athens, a reward which he deserves far more than the citizen who has won the prize at Olympia in the horse or chariot race, whether the chariot was drawn by two horses or by many. For I am in want, and he has enough; and he only gives you the appearance of happiness, and I give you the reality. And if I am to estimate the penalty fairly, I should say that maintenance in the Prytaneum is the just return.

The jury then voted and more agreed to the death penalty than had actually voted for his conviction. Try writing a paragraph in which one of the jurors who switched like this would explain why he did so. In doing so, try to make clear the audience he would have in mind. Then try writing another paragraph in which someone like Plato would attempt to explain whether or not Socrates was deliberately baiting the jury, and, if so, why? Again, what would be his audience and how would it affect his argumentation?

Finally, for class discussion, you are reading a text composed twenty-four centuries ago. What is the background that would
have been known to Greeks in Plato’s time but would be different from what we expect in a trial today? What about the way in which Greek writers recounted events? How might these factors affect your own understanding of what Socrates is supposed to have said?
6. NON-DEDUCTIVE REASONING

Most of our everyday argumentation involves information and ideas that may make us reasonably sure about the truth of our conclusions but, for several very simple reasons, do not allow us to say we could not really be wrong, even if our premises are completely correct. One reason why is that deductive reasoning, as you will see, calls for premises that do not allow for exceptions. What we know, though, is that realistically we cannot always make such generalizations, and as often as not we are working with terms (for instance, "easy" or "fun" in the examples I will use about logic) that cannot be pinned down so as to have the same standard for everyone in what they mean.

At the same time understanding what would make for a perfect case (a deductively valid argument with true premises) does give us some way of judging what we need for an inductively strong argument. For instance, the closer we can come to saying that X is a sufficient condition for Y or that Y is a necessary condition for X, the more likely is it that we can make use of our "put and take" rules to reach an acceptable conclusion. Let's look at this example:

*Jack will pass because he is studying.*

By itself this is not enough for a deductively valid argument. To have a valid argument an implied premise (which may or may not be a safe assumption) would be "if Jack studies he will pass" or "anyone who studies will pass." An immediate counterexample for the original argument would be: *Even though Jack is studying he will not pass because the test is very hard.* If we have additional information that the test is not very hard, then we are moving closer to saying that study by itself is enough.

The more information we can bring in to block counterexamples the better the case.

Jack will pass because he is studying.  *inductively weak, since we are told nothing more about the test or about Jack's abilities*

Jack will pass because he is studying and he is taking an easy
test. *moderately strong, but we still need to know more about Jack himself*

Jack will pass because he is studying for an easy test and he is good at the subject. *inductively strong, but not a "perfect case" since we could still imagine how things could go wrong (the test is not graded fairly, for instance, or Jack gets ill and cannot finish)*

A key idea: when any remaining counterexample is itself invokes something not likely to take place, we usually can say we have a strong case; the question of how strong the case needs to be in order to be acceptable depends on the risk associated with being wrong (why we have a higher standard--no reasonable doubt--for a criminal trial than we do for a civil one, which only calls for a preponderance of the evidence)

In developing a case for what someone should or should not do we can also make use of two basic conditional patterns that we will look at in more detail next week.

*Alice should study because she wants to pass, and only someone who studies can pass.*

This can be seen as approximating what is called the MP pattern: if $P$ then $S$, and $P$, so $S$

*Alice should not get a job since if she has a job she cannot study, and she needs to study.*

This can be seen as approximating what is called the MT pattern: if $J$ then not $S$, but $S$, so not $J$

However, whenever we are discussing what should or should not be done we find that it might be possible to have strong cases that oppose each other. This is because we can shift our point of view in discussing such judgments. Imagine counterexamples for each of the arguments above:

*Even though it's true that Alice should study because she wants to pass and study is necessary for passing, on the other hand Alice would have to give up her job.*

*Even though it's true that Alice should not get a job because she would not be able to study as she needs to do, on the other*
hand without a job she will not be able to pay for her expenses at school.

A key idea: in general it will be easier to make a case against doing something by pointing out a possible negative consequence; a case for doing something depends on there not being reasonable alternatives (making the thing in question both a necessary and a sufficient condition for a desired result)

SO, WHAT MAKES FOR A GOOD ARGUMENT?

There are three things we expect before we could call something a good argument.

- The bits of information or the assumptions expressed as premises are acceptable.
- The premises do provide reasonable support for the conclusion.
- There is movement from the premises to the conclusion.

Let's look at these three points more carefully, but let's also look at them in a reverse order.

- It is an argument to say, for instance, that logic must be easy because it is not hard, but since the idea in the premise only repeats the idea in the conclusion there is no real movement. This would be an example of the fallacy we call begging the question (or arguing in a circle). Sometimes this fallacy may not be all that obvious. Suppose we argue that the death penalty is wrong because it is murder and murder is wrong. This would be a clearly valid argument (with true premises we would contradict ourselves by denying the conclusion), but the problem comes in with the premise that the death penalty is murder. Since the term "murder" does not refer to any act of taking a life but to those we call wrong, we are
already using the idea that the death penalty is wrong to prove that it is wrong.

- It would not matter whether the premises really are true if they do not support the conclusion. Often enough, we may not be sure how acceptable the premises really are in themselves, but this does not matter if, let's say, they are not really relevant. For instance, supposing we use the idea that Mrs. Jones was having a torrid affair to support the claim that she is the one who murdered the late Mr. Jones. It might be questioned whether in fact the information about the affair is reliable, but in itself it hardly counts as proof of anything. It does suggest a motive, and consequently Mrs. Jones is certainly a good suspect, but there is too large a gap between the idea that Mrs. Jones could have have wanted her husband dead and the evidence that in fact she made this happen. (Of course, if there are other pieces of circumstantial evidence then this possible motive might very well be used in order to convince a jury, but by itself it is hardly sufficient to prove anything.)

- Saying that premises are true becomes a problem when we are not talking about clear facts but about probabilities. Also, when the premises express certain value judgments, there is always the issue of how reasonable they may seem to the listener. Information or assumptions being acceptable is not something black or white, and this itself is one reason that we always want to ask right off whether it even matters. If something is "true" does it mean that the conclusion has to follow (what we have in mind when we say an argument is deductively valid) or is it more likely than not to be true, given this information or these assumptions (what we have in mind when we say an argument is inductively strong)?

One goal of a course such as this is to lead you to think in terms of what really "proves" a particular claim--the type of support offered. Otherwise, it is too easy to be misled by faulty reasoning. For example, let's say we know that someone who studies would pass a particular test, and then we say that Alice
did not study. It does not follow that she might not still have passed. However, change the information so that we say that only someone who studies would pass, and the information that Alice did not study would be enough to rule out the possibility that she passed. One word changes the logic. In everyday reasoning, the actual relationship between studying and passing might not be spelled out, so we are working with what are called implied premises. "Alice must not have passed because she did not study" assumes that study was something necessary, so the question that then should be asked in evaluating the argument is not how true it is that Alice did not study but whether in fact she had to study.

SPECIAL TYPES OF INDUCTIVE REASONING

Any argument that is not deductively valid has to be judged in terms of its inductive strength, but there are many types of argument that by their nature would never be deductive: the most prominent examples are generalizations based on limited information, predictions based on past experience, and efforts to establish causal relationships. One way of linking them together is to compare them with what we expect in a syllogism, which relies on things being in fixed categories so that we can say, for instance, if anything A is also B and anything B is also C then we can be sure A is C also.

In the examples cited we are not talking about one thing being just the same as another (as when we say "all students are ambitious," which fits every student into the same category of individuals who are ambitious) but instead we are using the idea of similarity: A is enough like B so that if C is true of A it is likely to be true of B as well.

<table>
<thead>
<tr>
<th>Type</th>
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<tbody>
<tr>
<td>Generalizations</td>
<td>on the basis of a sample we infer that an entire population has certain characteristics</td>
</tr>
<tr>
<td>Predictions</td>
<td>we infer something about the future based on what we have have already seen in the past</td>
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causal relationships: we infer that one thing is the actual cause of another largely on the basis of how we have seen similar connections.

Pointing out similarities means we are dealing with analogical thinking. In general we are saying that the observed similarities outweigh possible differences. In a few weeks we will look more closely at how we work with analogical thinking in legal reasoning (how precedents are used to decide the way in which the law should apply to a particular situation) and in scientific reasoning (how past experience suggests hypotheses that can then be tested).
8. EXAMPLES OF INFORMAL FALLACIES

If we understand well enough what a good case should be we can then see what goes wrong so that we have an example of a fallacy--a mistake in reasoning. Earlier we looked at formal fallacies in connection with what we need for a deductively valid argument. Now we are going to look at informal fallacies--other mistakes that are not based on the misuse of a formal pattern but on other problems in having relevant evidence for an intended conclusion.

PROBLEMS INVOLVING THE USE OF LANGUAGE

Again, think of what we need for a good case. Obviously the information in our premises should be correct, but a key difficulty is that often enough the words we use are vague or ambiguous so that we might not always be sure of what information counts in deciding whether a particular statement is true or not.

Only important classes should be required for graduation. important to whom or in what way?

Education should be a high priority for the next governor. what really would this mean, since it could be seen just as a question of how funds are to be spent or it could be seen as a question of improving results?

We should not withdraw our troops until their mission is accomplished. is it clear just what the mission is supposed to be and how success is determined?

Definitely we need to avoid any use of language that closes off reasoned discussion because it loads the dice. Emotive language --expressions that suggest how someone feels about something--can be a special obstacle. As a thought experiment, decide how we should tell the difference between a patriot and an insurgent, a freedom fighter and a terrorist, then apply your standard to one or another historical
individual (for instance, George Washington, Ho Chi Minh, or Osama Bin Laden). In the same way, think whether the bombing of Pearl Harbor that precipitated American involvement in the Second World War should be understood as a preemptive strike or as a sneak attack.

Let's look at still more examples, and think of how rational debate is affected.

We cannot permit the continued slaughter of the unborn. *we are already forcing someone to accept that abortion is wrong in order to continue a discussion of whether it is wrong.*

Military operations always involve collateral damage. *this masks the fact we are discussing civilian deaths and might well distract attention from the issue of whether civilian targets were deliberately intended.*

Should we stay the course or cut and run? *this is putting a complex issue into black and white terms as well as using strongly emotive language.*

We should allow an undocumented worker to get a driver's license.

We should not allow an illegal immigrant to get a driver's license. *how does the wording here change the tone of the argument?*

Making our language sufficiently clear and also sufficiently neutral is a formidable task. In legal documents and in scientific research we emphasize the need of operational definitions that spell out how a word is understood by citing something measurable. For instance, at the college level we typically see the term "full-time student" defined in terms of being enrolled for a certain number of semester units at an accredited institution. Not having any such definition leaves things wide open. For instance, how would you know when you have a case of "religious discrimination" or "sexual harassment"? (A classic example of how difficult a task we have is the Supreme Court's effort to define what counts as pornography; the justices finally settled on an obviously
problematic appeal to community standards.)

PROBLEMS INVOLVING IRRELEVANT INFORMATION IN THE PREMISES

Anyone being asked to make an informed, rational choice should expect enough of the right kind of information. A great number of informal fallacies involve information (premises) that are not necessarily relevant to the conclusion but have the effect of shaping attitudes.

Arguments directed at the person rather than the issue (ad hominem arguments):

I'm again Senator Snort's bill on the environment. After all, here is a man who has been arrested twice for soliciting prostitutes.

we're being asked to oppose the bill not because of its merits but because of something about the person presenting it

However, attacking the person is not fallacious when the person's character or behavior in fact is the issue:

I'm against reelecting Senator Snort. After all, here is a man who has been arrested twice for soliciting prostitutes.

the senator's conduct is something that ought to be considered in voting for him

Appealing to an irrelevant authority:

We should vote for Senator Snort because he has an impressive list of celebrity endorsements.

This must be a great movie. It had the highest box office of all
the films that came out last month.

However, an appeal to a relevant authority is exactly what we might want to hear:

We should support the measures to curb carbon dioxide emissions because of the findings of different scientific panels on what causes global warming.

We should not allow a prayer meeting during class because the Supreme Court has ruled this kind of activity violates the Constitution.

**Emotional appeals of all sorts:**

How can you let children starve? You must contribute to this UNESCO campaign.

You better vote for this bill. You will be very unpopular if you don't.

**Turning the tables through an appeal to what someone does not know (ad ignorantiam):**

Since you cannot prove the Bible wrong you should be going to church.

Since you cannot prove the Bible right I don't see why you should be going to church.

*careful about this label: do not confuse this with, for instance, saying we should not make a certain decision because we do not know enough about its possible consequences*

**Turning the tables through an appeal to someone's own negative behavior:**

How can you ask me not to cheat on my exams when you have
been cheating on your taxes?

**Distracting attention from the actual issue by setting up an easy target (the straw man fallacy):**

We should be against any Equal Rights Amendment because women should not have to be drafted for military service.

**Distracting attention from the actual issue by proposing hypothetical outcomes (the slippery slope fallacy):**

If we allow the insurgents to win in Iraq we will have empowered them to destroy our interests in the Middle East, and then we can expect still more efforts to destroy Western civilization itself.

**PROBLEMS INVOLVING HOW PREMISES ARE SET UP**

Not only should the premises contain enough of the right kind of information, but they should not (1) call on someone to take for granted the very thing that has to be proved or (2) propose alternatives in an extreme way.

**Begging the question:**

We should oppose capital punishment because murder is wrong and capital punishment really is just another form of murder.

*If the issue is whether capital punishment is wrong we cannot predetermine this by using a term such as "murder," which does not just refer to taking life but doing so wrongfully.*

**False alternatives:**

Either we make college more affordable or we are condemning the poor to a life at just the subsistence level.
most controversial issues are fairly complex with a range of choices possible

Finally, we expect that when information is presented in order to make an informed decision we are not having something held back. (suppressed evidence):

You should accept this credit card because it has a very low interest rate.

not mentioned in an ad except in the very fine print that most of us fail to read: this rate changes to something very high if there is even one late payment, and in addition there can be a substantial penalty that may even be more than the balance owed

UNDERSTANDING WHO HAS THE BURDEN OF PROOF

What we mean by this term "burden of proof" is who has to make the case. If I am the citizen asked to vote or the consumer asked to buy then I am not the one who has to defend my choice--or my silence. Being asked "Why won't you vote for Senator Snort?" or "What's wrong with this brand?" are examples of unfairly turning the tables. They are perhaps the most common tactics used by sales people, especially since the longer individuals are put on the spot the more likely they are just to go along with what they are being asked to do. Keep in mind you always have the right to say no (you don't have to vote at all, and you don't have to buy any particular product or service), and being unwilling to hurt someone's feelings or being afraid of seeming less smart or sophisticated can very well lead you to make unwise choices.

In a courtroom the concept of the burden of proof becomes especially important. In a criminal trial the prosecution must convince the jury beyond a reasonable doubt, but with what we understand by the presumption of innocence and the right not to incriminate oneself defendants are under no obligation to take the stand to make a case for their innocence. In a civil trial it is more a question of which side seems to be making the
better case, and here a jury (or a judge, as in many civil trials) does expect to hear from both parties.

At the same time, be careful not to demand too much (one mistake students make in evaluating something like an editorial when they call it "unbalanced"). No one making a case for something has to list any of the points that could be raised on the other side, although anticipating them (presenting counterarguments) can be a helpful strategy. However, just answering objections is not itself presenting evidence. Saying you cannot prove me wrong does not mean I am right, but saying I can in fact prove you wrong also does not mean I am right.

Careful here: do not confuse this with the reasonable expectation that important evidence should not be suppressed. A prosecutor, for instance, does not need to present a defendant's alibi to the jury, but before a trial the prosecution is expected to disclose any relevant information to the defendant's attorney. In the same way the President does not have to point out all the possible negative consequences of something he wants from Congress, but we would not want him to omit relevant information to which ordinarily members of the Congress would not have access.

REMEMBER, NOT EVERYTHING IS A FALLACY

Critical reasoning is a skill developed with practice. A quick way of explaining what we mean by critical reasoning is to say that we become used to thinking in terms of what else or what more we need to hear in order to make an informed and reasonable choice. Any discussion of informal fallacies is intended to cue us to think in terms of how easily we could be led to think we are being presented a good case when in fact there is just not enough of the right kind of evidence presented. Unfortunately, because of the way in which informal fallacies have come to be labeled in the textbooks, it is too easy to go the opposite direction and ignore what in fact might be an acceptable case. One textbook author, trying to curb this tendency, has talked about "look alike" situations: any appeal to authority or any attack on the person is seen as
making a bad case when in fact the question has to be whether the information cited is really relevant to the conclusion. Unlike the discussion of formal logic, with its very fixed rules, here we need to understand just what it is we are being asked to accept. (In reading newspaper editorials, for instance, you would not ordinarily find informal fallacies, but you will have many "look-alike" situations.)

In this course you are being asked to pay special attention to what I'll call the guerrilla war of words. Political rhetoric and advertising in general are meant to lead you to develop certain attitudes or make specific choices which may not in fact be in your best interests as a voter or as a consumer. Survival involves a strategy of making sure

- you understand clearly what is being meant by a particular word or phrase
- you have a clear understanding of the issue (what it is that you are being asked to accept or reject)
- you know just what evidence you are being offered
- you can tell whether this is the right kind of evidence (you are able to assess its relevance)
- you can tell whether it is enough evidence (you are able to see whether there is more you ought to know for an informed decision)
- you have some way of assessing whether what you are being told is in fact true

In evaluating an argument try to avoid a "gotcha" outlook: either ignoring the principle of charity to have the presenter saying something not reasonably intended or claiming to have spotted a fallacy when really you have a "look alike" situation.
FINALLY, WEAK ARGUMENTS ARE NOT NECESSARILY FALLACIOUS

For an inductively strong argument we should have enough relevant evidence. By using the counterexample technique (keep the premises true but reverse the conclusion with an imagined explanation how this could be so) we can test just how strong an argument actually is. Fallacious arguments are weak arguments because the evidence presented for a conclusion is either not relevant or clearly insufficient or in some other way is misleading, especially through an appeal to our emotions, so that the case looks better than it is. However, weak arguments are not necessarily fallacious: they may simply not provide enough relevant evidence. (A quick test: Is there something about the argument that makes the evidence seem stronger than it actually is? If so, yes, we most likely do have an example of one or another informal fallacy. It is not necessary and usually not that helpful to label the mistake; instead, point out how the premises in some way lead us away from the real issue.)

A REVIEW QUIZ FOR CLASS DISCUSSION

Which of the following arguments are fallacious (logically deceptive)?

Some students are very good at briefing, so this indicates everyone is ready to move on to a new topic.

Some students are very poor at briefing, so this indicates not everyone is ready to move on to a new topic.

We should not vote for Congressman Green’s position on the banking crisis. That’s because he has had many problems with bounced checks.

We should not vote for Congressman Green, who is up for re-election. That’s because he has had many problems with
bounced checks.

Murder is wrong, and abortion is murder, so that proves abortion is wrong.

Abortion is the taking of innocent life, and the taking of innocent life is murder, so abortion is murder.

We know that almost everyone who has used heroin has previously used marijuana. Therefore, in order to prevent more serious addiction, we should not consider legalizing abortion.

We know that most teenagers who contract sexually transmitted diseases begin with activities such as kissing and petting. Therefore, in order to prevent the spread of drug-resistant strains of these diseases, we should encourage teenagers to have more positive attitudes towards sexual restraint.

The Second Amendment says we have the right to bear arms, so we know gun control is unconstitutional.

The Supreme Court has upheld a woman’s right to get an abortion in the first six months of a pregnancy. Therefore, we know it would be unconstitutional for a state to make early abortions illegal.
This course is as much about critical reading as it is critical writing. Both involve making judgments about meaning. You read something, you are trying to make sure just what it is that is being said. When that is a case (or argument) of some kind you want to be able to evaluate how good it is. You write something, you want to make sure your intended audience gets what you are trying to say, and when that is a case you want to make sure it as well reasoned as possible.

One valuable exercise is learning how to break down someone else’s case. Perhaps the best examples are newspaper editorials.

**Something to note:** an editorial expresses the position taken by the newspaper itself. Do not confuse an editorial with other columns that express the opinions just of their authors. One characteristic typical of editorials is that they do not indicate their author.

**TYPES OF EDITORIALS**

Generally an editorial will make a key point that expresses the stand of the newspaper. These points can be seen as fitting into one or another of the following:

**Boo/hooray!** The purpose of the editorial is to express approval or disapproval of a decision already made or an action already taken. ("Senator Snort should be ashamed of his stand on animal rights."")

**Listen up!** The purpose of the editorial is to call attention to a problem and ask for it to be resolved. ("There are mounting incidents of a misuse of animals in the name of medical
Get on it! The purpose of the editorial is to recommend a particular decision, either for or against a definite course of action. ("Congress must pass SB 123 to limit the use of animals for experiments in cloning.")

ROLES OF INDIVIDUAL STATEMENTS IN EDITORIALS

In reading an editorial we have to understand where any particular thing that is said fits into the case being made:

**Background.** Typically an editorial will fill in information for the reader. This might be the history of a particular controversy, or it could be an incident that has attracted attention. It is here that the problem is stated, but we need to remember that if the issue is how to solve the problem then any explanation of why there is a problem may itself be just background, not strictly part of the case. ("Last year two thousand chimps in the name of science were slaughtered by Acme Pharmaceuticals.")

**Rebuttal or counterargument.** A case will be seen as stronger if objections to a proposed position can be answered. Often this is done even before the case itself is fully developed. ("We know that Senator Snort is an experienced legislator concerned with foreign policy, but that does not excuse his lack of interest in the plight of the creatures made to suffer in the labs of Acme Pharmaceuticals.")

**Reasons or premises.** These are the actual points made to support the stand taken. ("By requiring Federal approval before a primate can be killed, researchers will no longer be able to decide that an animal's suffering is immaterial.")
**Inferences or conclusions.** This is the point that the editors want to convince the reader is true by citing other information. ("Senator Snort should withdraw his opposition to SB 123.")

**SUPPLYING IMPLIED PREMISES OR CONCLUSIONS**

Most argumentation moves forward by finding points that a listener will accept and then building on these for the conclusion. Often enough what really should be considered are the things left unsaid but meant to be assumed. Because they are not presented openly, the listener is swept forward when possibly she ought to be holding back and demanding more information.

In reconstructing a case, a necessary step is to supply these implied premises or conclusions *as long as it appears that they are reasonably meant to be taken for granted*. We should always follow the principle of charity: do not have someone seeming to mean something which would be clearly unreasonable.

Example 1: *Alice will not pass her test. That is because she is not studying.* Clearly implied is the idea that study is a requirement for passing. Not reasonably implied would be the idea that study would definitely allow her to pass.

Example 2: *We should vote to reelect Senator Snort, because he is committed to improving our relations with the countries in Asia.* Clearly implied is the idea that we should have someone in office who would work to improve these relations. Not reasonably implied would be the idea that relations would definitely be better if Snort were reelected.
PARAPHRASING THE CASE (MAKING A LOGLINE)

Restate the case made as economically as possible. As much as possible, reword statements to limit the use of emotive language. Do not supply any implied premises or conclusions.

In Hollywood a logline is the summary of a movie plot in one or two short sentences. Before a film ever gets made a proposed script is reviewed and the logline is a crucial part of what is called its coverage. For instance, the logline for *Romeo and Juliet* might read "Teenagers from rival political families fall in love and unwittingly cause each other's death."

I've borrowed this Hollywood term to refer to a single sentence of no more than twenty-five words that expresses the heart of an argument--what someone means to prove (the conclusion) and the key reason offered as proof (the most important premise).

For instance, let's say we are examining the argument put forward by the President in ordering the invasion of Iraq. His reasoning could be summed up this way: "The United States must invade Iraq and remove Saddam Hussein from power because his possession of weapons of mass destruction presents an unacceptable risk."

Loglines, then, are not excerpts from the actual argument. To develop a logline means that you do understand a writer or speaker's key point and you see how that person attempts to support it. You are then paraphrasing (putting in your own words) what you read or hear.

The formula I encourage you to use is this: *either the conclusion followed by the word "because" and then the main premise or the main premise followed by the word "therefore" and then then the conclusion.* You are otherwise leaving out all that is background information as well as whatever other discussion is involved.
Examples:

Voters should re-elect Snort to the Senate, because he takes a good position on our relationships with the countries in Asia.

Senator Snort takes a good position on our relationships with the countries in Asia, therefore voters should re-elect him to the Senate.

NOTE: you must use an inference indicator ("because” “therefore,” or their equivalents)

EVALUATING THE CASE

Usually we do not need to ask whether a newspaper editorial has the facts correct. Instead we ought to concentrate on the meaning these facts are said to have. Are we aware of other factual information that would materially affect the picture?

We do need to consider whether implied premises are safe or unsafe assumptions. In other words, is there a jump in the reasoning that should be made clear?

The evaluation of a case finally has to be in terms of whether it is strong enough for the situation. The greater the consequences of being wrong, the stronger the case should be.

A key point to remember is that there can be equally strong cases on opposite sides of an issue. Evaluating the strength of a given position should not be used to express your personal agreement or disagreement on the stand taken in the editorial.

Example: The editorial assumes that Snort’s position on Asia outweighs the fact that he has not been able to work easily with members of his own party in the Senate. The case is weaker than it should be. You may in fact agree that Snort should be re-elected, perhaps because his opponent would be a
far worse choice.

**EXAMPLE**

LOS ANGELES TIMES, 5/10/15

**L.A. Unified needs to do its homework on college-prep standards**

It’s much easier for members of the L.A. Unified school board sitting on the dais to pass stringent and unrealistic new standards than it is for teachers on the ground to carry them out. Case in point: the district’s requirement that all students take the full schedule of college-prep courses — and earn a grade of C or better — if they want to graduate. It isn’t working.

Passed a decade ago but given 12 years to be fully implemented, the graduation requirement was big on good intentions but short on common sense. School activists were right to demand change in 2005; the situation was unacceptable. Too few students even tried to take the courses, known as the A-G series, required for admission to the University of California and California State University. In many high schools, especially those where disadvantaged students were enrolled, the courses weren’t even available. When they were, black and Latino students were commonly discouraged from taking them or were automatically signed up for an easier set of courses without being told what their options were.

Still, there’s a big difference between encouraging higher standards and setting students up for failure. The board based its policy on a similar effort in the San Jose schools without doing enough research to lean that the supposed success in that district was based on misreported data.

Now L.A. Unified faces its own embarrassing confrontation with reality: As many as three-fourths of its high school sophomores aren’t on track to meet the college-prep graduation standards that take effect in two years, according to district research. The results could be catastrophic. The requirement also has led to a
narrowed curriculum and the dropping of elective classes.

The board obviously must heed Supt. Ramon C. Cortines and back away from the policy. In fact, it should drop the A-G requirement altogether and find more effective ways to prepare larger numbers of students for college.

All students must be guaranteed access to the full series of college-prep courses, and they should be encouraged to try taking them. Perhaps A-G should even be the default curriculum, unless students opt out. The board should require regular reports from schools on how many students are taking the courses and, of those, how many are maintaining grades of C or better. It should publish the data and intervene when numbers are disturbingly low.

At the same time, not all students are interested in college, and there will always be jobs that don’t require it. Not everyone needs advanced algebra, one of the A-G requirements. Rigid, all-or-nothing policies ignore the differences in students’ interests and strengths. The goal should be better-educated students prepared for productive lives through well-rounded schooling.

**DECIDING THE LOGLINE:** Since there is a specific recommendation, paraphrase it so that we know who is supposed to do what (the conclusion) and the key reason(s) for doing so. Here the Board of Education is being asked to drop the A-G requirement for high school graduation. The key reason is that the policy is not working to prepare larger numbers of students for college. The logline then could be expressed as "The Board of Education should drop the A-G requirement for high school graduation, because it is not actually preparing larger numbers of students for college."

**EVALUATING THE CASE:** There is acceptable evidence presented that the policy is not working and in fact is actually counterproductive. This would make it an inductively strong case.
SUGGESTED EXERCISE

1. Take a current editorial and answer these questions.

2. What is the issue under discussion?

3. What type is it (boo/hooray, listen up, or get on it)? How can you tell?

4. What is a good logline for the case being made?

5. Is there enough relevant evidence for the writer’s position?

6. What information, if available, would allow this to be a stronger case?
10. RESPONSIVE WRITING

Briefs and logical critiques are tightly focused pieces of writing. Their purpose is to allow a reader to see quickly what is of logical significance in a text under consideration. The do not allow writers an opportunity to present their own views.

Letters to the editor, book reviews, and magazine articles assessing some other text or collection of texts do much more than give a fairly neutral evaluation. For students they are a chance to demonstrate their skill in counterargument or rebuttal.

In developing responsive pieces you will need to be on your guard for certain informal fallacies, but at the same time you need to be on the alert for fallacy “look alikes”—acceptable types of argumentation that can be easily confused with actual fallacies. Here is where you will use counterexamples either to show that an argument intended to be valid involves a formal fallacy or that a non-deductive argument is not as strong as it needs to be.

The type of responsive writing that perhaps is most important actually tries to advance a discussion. To show what I mean, I am going to repeat directions I have used for students engaged in online discussions. Let’s call it the FRESH approach.

**Focus.** Identify the question that has come up as clearly as possible.

- For instance, you might be asked for your reaction to a situation ("What do you think about the increasing number of single-parent families?")
- to a statement ("Do you agree with what Plato said about evil being just ignorance?")
• or to a person’s actions ("Did Martin Luther King do the right thing when he took part in an illegal demonstration?").

• Maybe you are being asked to think through the best way either to define a term ("What do we mean by justice?")

• or to apply it ("Should we consider the death penalty to be itself an act of murder?").

You try to do this before your speak or write. This is particularly important in a classroom discussion so that there is a definite flow in the conversation and not just isolated responses.

**Restate.** Think of whatever you say as in some way an answer to a question, then show that you get the point of the question by paraphrasing it (saying it over in your own words). Often this itself moves things forward by removing some of the ambiguity or vagueness in an original question.

For instance, for each of the examples above you might think of restatements like the following:

• "You are asking me whether I see the fact that more families have just one parent as a problem?" (paraphrase of "What do you think about the increasing number of single-parent families?")

• "You want to know whether I accept the idea that no one could really do what he understood to be wrong." (paraphrase of "Do you agree with what Plato said about evil being just ignorance?")

• "You are asking whether an act of civil disobedience is justified." (paraphrase of ("Did Martin Luther King do the right thing when he took part in an illegal demonstration?")

• "You want to know what makes something count as an act of justice and maybe not just revenge." (paraphrase
of "What do we mean by justice?")

- "You are asking whether there is a difference between what a society does in punishing a killer and what the killer himself does." (paraphrase of "Should we consider the death penalty to be itself an act of murder?")

In a classroom discussion this allows the person who spoke first either to agree or disagree that what you have said fairly represents what she was saying. If you did not understand her, she has the chance to try to explain herself more clearly. In online discussions you will not have the same immediate response, but at the same time it is not as important since you do not control the flow of conversation in the same way you would in the classroom.

Explore. Either you are going to attempt an answer to the question or you are going to pose another question that takes us in some way inside the issue.

For instance, each of the questions above invites us to go inside in these ways:

- "Is it necessary for a child to have both father and mother present for normal development?" (This can be seen as an empirical question that might be answered by going to the research available on child development.)

- "Can something be wrong in one way and right in another so that an individual looks at the same action from different angles?"

- "Do we mean to talk about whether an individual gets what he deserves in the sense that wrong actions should have uniform punishments?"

- "Do we have a right to life that is absolute?"

If you are actually ready to answer the question, what you would now do is present the key to any explanation of your
own. Where are you coming from in your answer? You might want to identify some theoretical background (for instance, "I am using a consequentialist approach in which right and wrong are determined by the predictable results of an action, and this means that we have to think about what King could reasonably believe he would accomplish by breaking the law.")

Specify. As you develop your response you want to see two things. One is what you are taking for granted (your assumptions or presuppositions) and the other is what seems to be implied by what you are saying. Above all, what limits are you putting on what you say?

Let's imagine that you are dealing with Martin Luther King and the concept of civil disobedience. Maybe you support the idea that King did the right thing, but you need to think of how someone might now ask you whether you would see a difference between acting nonviolently because of a question of conscience and acting violently for the same reason.

This really is the body of your response. You want to develop your argument as clearly as possible, using examples to make generalizations more clear.

Halt. Know when to stop. Your contribution to a conversation should inspire thoughtful response. For that reason you should be brief and to the point. Don't let your emotions run away with you, and never go on the attack about someone's "real" reason for saying something. Above all, be courteous and show respect for your classmates even when you disagree with them.

So let's repeat. If we use the FRESH approach, you make sure that you

- focus on the issue,
- restate what you understand it to be,
- explore your own thoughts about it either by going right to an answer with its basis or you develop another question that might bring us closer to an answer,
specify what you mean by setting limits on what you mean to take for granted or on what you intend to have follow, and

halt when you have made your point so as to allow the conversation to keep moving.

Above all, this is an approach you should try to use in your replies whether you agree with something that has been said or you disagree. If you agree, do try to say why you think the original statement is right, since your reasons may bring out new points. If you disagree, indicate whether the disagreement is based on facts or on values.

SUGGESTED EXERCISE CLASSROOM DISCUSSION

Take any current controversial issue and have two or three students present short cases on either side. Then other students should try to advance the discussion by following these steps.
11. DEVELOPING A GOOD CASE

There are three things we expect before we could call something a good argument.

- The bits of information or the assumptions expressed as premises are acceptable.
- The premises do provide reasonable support for the conclusion.
- There is movement from the premises to the conclusion.

Let's look at these three points more carefully, but let's also look at them in a reverse order.

- It is an argument to say, for instance, that logic must be easy because it is not hard, but since the idea in the premise only repeats the idea in the conclusion there is no real movement. This would be an example of the fallacy we call begging the question (or arguing in a circle). Sometimes this fallacy may not be all that obvious. Suppose we argue that the death penalty is wrong because it is murder and murder is wrong. This would be a clearly valid argument (with true premises we would contradict ourselves by denying the conclusion), but the problem comes in with the premise that the death penalty is murder. Since the term "murder" does not refer to any act of taking a life but to those we call wrong, we are already using the idea that the death penalty is wrong to prove that it is wrong.

- It would not matter whether the premises really are true if they do not support the conclusion. Often enough, we may not be sure how acceptable the premises really are in themselves, but this does not matter if, let's say, they are not really relevant. For instance, supposing we use the idea that Mrs. Jones was having a torrid affair to support the claim that she is the
one who murdered the late Mr. Jones. It might be questioned whether in fact the information about the affair is reliable, but in itself it hardly counts as proof of anything. It does suggest a motive, and consequently Mrs. Jones is certainly a good suspect, but there is too large a gap between the idea that Mrs. Jones could have have wanted her husband dead and the evidence that in fact she made this happen. (Of course, if there are other pieces of circumstantial evidence then this possible motive might very well be used in order to convince a jury, but by itself it is hardly sufficient to prove anything.)

- Saying that premises are true becomes a problem when we are not talking about clear facts but about probabilities. Also, when the premises express certain value judgments, there is always the issue of how reasonable they may seem to the listener. Information or assumptions being acceptable is not something black or white, and this itself is one reason that we always want to ask right off whether it even matters. If something is "true" does it mean that the conclusion has to follow (what we have in mind when we say an argument is deductively valid) or is it more likely than not to be true, given this information or these assumptions (what we have in mind when we say an argument is inductively strong)?

One goal of a course such as this is to lead you to think in terms of what really "proves" a particular claim--the type of support offered. Otherwise, it is too easy to be misled by faulty reasoning. For example, let's say we know that someone who studies would pass a particular test, and then we say that Alice did not study. It does not follow that she might not still have passed. However, change the information so that we say that only someone who studies would pass, and the information that Alice did not study would be enough to rule out the possibility that she passed. One word changes the logic. In everyday reasoning, the actual relationship between studying and passing might not be spelled out, so we are working with what are called implied premises. "Alice must not have passed because she did not study" assumes that study
was something necessary, so the question that then should be asked in evaluating the argument is not how true it is that Alice did not study but whether in fact she had to study.

WHAT MAKES A CASE STRONG OR WEAK?

A key idea in the course is that the stronger the claim (what you are trying to prove in your conclusion) the better the evidence needed. For instance, you need much better evidence to prove that Alice will have a perfect score on her exam than if you were just trying to prove she would pass it. Another idea that is important is that the more is at stake in the argument, the higher the standard for what will count as an inductively strong case.

One useful technique is to think about what would be needed for what I call a perfect case (one that is deductively valid with correct information in the premises). Remember that in ordinary argumentation we cannot usually present deductively valid and sound arguments because typically they call for generalizations that would go beyond our evidence. However, by examining how close an actual argument might resemble one that is deductively valid we do have a way of measuring its inductive strength. We can do this by looking at the possible counterexamples—-hypothetical situations in which the premises remain true but the conclusion is false along with an explanation of how this could happen. In a valid argument there can be none at all. The more improbable the counterexample, the stronger the case.

Anyone who studies will pass, and Jack is studying, so Jack will pass.

Only someone who studies will pass, but Jill is not studying, so Jill will not pass.

These are two basic patterns for a valid argument, but the problem in real situations is justifying the generalization in the
first premise.

Let's look at the arguments we might ordinarily use.

1. Jack is studying, therefore he will pass.  \textit{inductively weak, since we can easily imagine a good reason why he might not pass}

   counterexample: Even though he is studying, it is a very hard test and so Jack will not pass.

1a. Jack is studying and it is an easy test, therefore he will pass.  \textit{this would be a moderately strong argument but we can still imagine a plausible exception}

   counterexample: Even though he is studying for an easy test, Jack will not pass because the material is not something he understands.

1b. Jack is studying for an easy test on material he understands very well, therefore he will pass.  \textit{inductively strong, since without further evidence a counterexample appears to be an unlikely script for the events}

   counterexample: Even though he is studying for an easy test on material that he understands well, Jack will not pass because he is going to become ill during the test.

   note that in 1a and 1b we are closing the gap that would make study alone a sufficient condition for passing

2. Jill is not studying, therefore she will not pass.  \textit{inductively weak, since we can easily imagine a good reason that she might still pass}

   counterexample: Jill is not studying but since she already knows the material we can be sure she will pass.
2a. Jill is not studying and this is unfamiliar material, therefore she will not pass. *this would be a moderately strong argument but we can still imagine a plausible exception*

counterexample: Even though she is not studying and this is unfamiliar material, the test questions are so easy that Jill will be able to guess the right answers and so will pass.

2b. Jill is not studying for a very difficult test on unfamiliar material, therefore she will not pass. *inductively strong, since now we have to imagine exceptions that, with no further evidence, would not be likely to be true*

counterexample: Even though Jill is not studying for a very difficult test on unfamiliar material, she will be able to cheat and so will manage to pass.

*note that in 2a and 2b we are closing the gap that would make study a necessary condition for passing*

The guide, then, is to keep thinking in terms of sufficient conditions (for a positive result) or necessary conditions (for a negative result).

When we turn to arguments about what we should do we can apply our guidelines in this way:

In presenting a case for a particular action, we need to come as close as we can to showing that the action is both a sufficient and a necessary condition for a desired result. In other words, doing what is recommended will guarantee the result and there are no alternatives.

*Jill needs to study if she wants to pass, and if she does study she will pass, so she ought to study.*

In presenting a case against a particular action, we need to come as close as we can to showing that the action is a sufficient condition to an undesired result.

*Jack should not take the time to study, since he would have to give up his job to do so and therefore could not*
stay in school.

The second example in particular brings up the possibility of what we will POV (point of view) objections. In almost any ordinary situation we can imagine how, viewed from a different angle (or point of view), there is a risk of some kind. The closer we can come to saying there is no risk or downside, the stronger the case we are making. This also means that if we are making a case for a course of action, we need to be sure that we could, if we needed to, show why an alternative is less acceptable. This is something we do when we present a counterargument (a plausible objection) and then attempt to answer it.

One of your early assignments was to take an issue that had been presented as the basis for an editorial and analyze how the evidence available would allow the strongest possible case. You should return to that assignment and review your submission. Examine your imaginary logline, then ask about the implied or unspoken premise we might be expecting for the perfect case, then see how closely the evidence available allows you to come to such a case.

Example:

**logline:** Undocumented workers should not be allowed to get California driver's licenses because this rewards illegal behavior.

**implied premise:** Any action that provides a service to a person not legally in the country is rewarding illegal behavior, and it is wrong to do this.

**POV objection (the counterargument):** On the other hand, only through a process of providing licenses can unsafe drivers be kept off the road, so this is a benefit to other citizens even more than it is a benefit to an undocumented worker.
Questions to be asked: What percentage of California drivers are in the country illegally? Does the manner in which driver's licenses are granted reduce unsafe driving? How many undocumented workers would actually apply for a driver's license? note that many questions cannot readily be answered with any assurance, but the more actual evidence is available the better the support in the case

EVIDENCE THAT COUNTS

Disagreements can be based on a difference in values or, more frequently, a different understanding of the facts involved in a situation.

We take much more on faith--on someone else’s word--than we usually appreciate. Anything that is not our direct experience comes to us from what others have told us, and that includes such basic items as a date of birth, the history of our country, and the idea that the sun rose and set a century ago in just the same way as it does now.

Part of what we come to take on faith is what things we can safely take on faith. With education we learn to be skeptical about many things that earlier we would have believed without question. We also learn what we are expected to disbelieve as normal adults--the existence of a tooth fairy or Santa Claus or the Easter Bunny--just as we learn what things will come to be seen as a matter of personal conviction and ideally no one’s concern but our own (such as our religious beliefs).

“Critical reasoning” as a phrase implies a willingness to challenge at least some claims proposed to us: the content of ads and commercials, the information or propaganda put out by organizations dedicated to particular causes, even the well-meaning advice of our friends and relatives. This is not at all the same as saying a logic student should be a skeptic on principle, as though nothing is ever really acceptable without proof. Instead, the task should be to recognize when additional evidence ought to be demanded and when such a
demand is unnecessary.

In part this involves developing a workable distinction between facts and opinions. Ordinarily we think of facts as those things accepted as true without further challenge--the stuff of our physical experience, historical data, standard accounts of how nature works.

Opinions are statement that are not acceptable at the same level, and these would include various interpretations of some things otherwise considered facts, almost all value judgments (the exceptions would be those crucial to carrying on a discussion, such as the importance of knowing the truth), and predictions that do not rely on strict scientific laws. Where this distinction often blurs is in the area of scientific theory--the explanations for what we observe--in that some theories (such as our understanding of atoms and molecules) appear incontrovertible, some are generally accepted in the scientific community but may be widely disputed elsewhere (as is the understanding of biological evolution), and some are strongly debated even among scientists (for instance, explanations of mental illness).

Some mistakes in reasoning come from thinking of the distinction as one that is between what is clearly “true” and what cannot be proved “true.” What we should recognize is that our factual knowledge is constantly subject to revision (textbooks change, not just by adding new information but by eliminating or revising some of the supposed information of the past) and that opinions can be either pure speculation or extremely well supported inferences.

There are some guidelines we can use to measure the possible worth of any opinion (or theory) presented.

1. A radical inconsistency with what we observe creates a presumption of error. This is a guideline that we have to be careful with, however, since there is a considerable difference between any actual observation and its interpretation. For instance, we do not actually see the sun move around the earth, since what is visually apparent can be explained either
by saying that the earth stands still and the sun moves around us or by saying that we are turning and in fact moving around the sun.

2. Inconsistency with other beliefs we hold that appear well established also creates a presumption of error. Certainly we may be wrong about even some very basic beliefs, but ordinarily any effort to imagine how they could be wrong also affects how we would make any challenge to them. A key distinction between genuine science and a “crank” theory is the general acceptance of previous findings. Copernicus and Galileo, for example, did not reject the centuries of astronomical observations preceding them. Crank science, such as the theory that the earth is hollow, is oddly selective about what is to be kept and what is to be thrown out.

3. Appropriate training and experience in a particular field of study is seen as making a new approach worth considering. An M.D. with strong research credentials who suggests a novel approach to treating AIDS can hope for a serious hearing while a famous actor cannot. Knowing that someone is a recognized expert and endorses it may be only partial justification for accepting a particular belief, but asking someone to accept it solely on the word of a celebrity would be an example of a fallacious appeal to authority.

4. An opinion that cites no evidence apart from intuition, a supposed revelation, or highly improbable experiences does not usually merit serious consideration. It may happen, of course, that a person does “know” something but is unable to verbalize how he knows it, yet the burden of proof must still remain with anyone attempting to persuade us to agree. Some opinions, such as those dealing with what seems unknowable in itself, may make interesting speculations (playing “what if”) but have to be regarded on a par with science fiction and not seen as serious candidates for scientific consideration.

SUGGESTED EXERCISE

Present an outline for a case on a controversial issue. Indicate
clearly key facts and your sources for them.
12. POWER WRITING

Presenting a case certainly involves more than listing facts (or values) and indicating reasonable inferences. There is the psychological effect of saying something in a different, possibly unexpected way. We saw earlier how a choice of vocabulary can make this happen. Now we want to look at still other possibilities.

Argumentation itself can be direct, indirect, or oblique. A direct argument is the systematic presentation of evidence to establish that a claim is true. An indirect argument is the presentation of evidence to show that a claim is false. An oblique argument is the development of points that may not at first appear relevant to a writer’s claim but have the power to compel the reader to rethink the entire issue.

Examples

A direct argument: All human beings are equal in what makes for humanity—our capacity to think and to feel. We may look different, and our cultures may have led us to speak and dress differently, but these are all surface distinctions. What is in our minds and hearts is something else. And that is why there is no place for racism on a college campus.

An indirect argument: Let’s imagine that we did allow race to be an important consideration in how we do things on campus. How will we treat the student who has a black father and a white mother? Is she white in the same way people are Jewish because their mothers are Jewish? Or is she black, because her whiteness has been sullied? Or is she something else, a member of a third group? And what of the student with one white grandparent or one black grandparent? Obviously just considering the absurdity of a calculus of mixed blood is enough to show us why racism has no place on a college campus.

An oblique argument: We need to be organized if we’re to make it in college. We have to know what classes we should
take, what books we will need, what time we can set apart for study. We have to do homework, and we have papers, and we have tests and more tests. Doing all this calls for a lot of concentration. So does racism, if you take it seriously. The trouble is that in college you just can’t do both—be a dedicated student and also be a dedicated racist. There just isn’t enough time.

Each of these arguments aims at making the same point—that racism does not belong on a college campus—but they do so in different ways. None is as stripped down as the arguments we have been using as examples in previous sections, and you might find briefing any one of them somewhat of a challenge in that what is left when a text is boiled down to its logical skeleton is just not as interesting as what we started with. This itself cues us that style does matter, even in how we are brought to understand a case.

Let’s assume that it is your turn to present a case, and you want to do so as effectively as possible. Developing a good brief is just the beginning, since the purpose of a brief is only to see the logical organization of the ideas that are being expressed. Packaging the presentation in an interesting and effective manner is what good writing is about, and here nothing takes the place of a considerable amount of reading and a conscientious effort to live up to the standard of those authors you most enjoy.

A one-semester course can push you along only so far. In the next sections we will work first on points to remember in putting together a good argument, then on points to remember in giving it a more dynamic presentation.

BUILDING A CASE

What are you trying to prove?
You have a reason for presenting an argument. Also, you have some idea of your audience. Perhaps, like the arguments we
just looked at, your presentation is not meant to change someone’s mind but to provide motivation (what is a typical of a sermon or a commencement address). Your job, then, is to find a new angle or a fresh approach.

Perhaps you are discussing something far more controversial. If you intend to reach a sympathetic audience, you will most likely want to give your reader fresh ammunition for either attack or defense. If your audience is more likely to be on the other side, then you have to choose the approach that will be most successful in either winning someone over or at least reducing the degree of opposition to what you stand for.

**What evidence will count?**

Your premises must be relevant, adequate, and true. That is just for openers. Taking the Triple-A Rule into account, you also need to ask yourself how much you can assume that your audience already accepts. You do not need to elaborate on what will be obvious to your reader, but those points that are likely to be less familiar should be explained and backed up.

**How much counterargument is needed?**

You should anticipate those objections to your position that are most likely to be in the minds of your readers. Unlike an actual debate, and also unlike a courtroom situation, you will not have a chance for rebuttal. In practice, what this means is that you are trying to be your own devil’s advocate, especially if it is not an easy matter to answer those objections. But at the same time you want to convince your reader that (1) you have considered an issue carefully from both sides and (2) you do have answers for the questions that can be thrown at you.

Once again, however, note that a good counterargument does not of itself make a case. To think otherwise is to slip into the fallacy of an argument to ignorance.

**What examples should you use?**
Examples, remember, are not evidence, yet they can be very effective in getting your reader’s attention. Still, you have to be careful that they do not distract someone from the main point that you want to make. You also have to be careful that they do not actually antagonize your reader, as could happen with something that is likely to provoke a strong emotional response. Ask yourself whether your intended case works just as well without any examples or whether they actually advance a reader’s understanding.

EFFECTIVE PRESENTATION

What kind of argumentation should you use?

Indirect and oblique argumentation both presume a certain amount of sophistication on the part of the reader. If the points you want to make are not especially familiar, then the problem can come up that the reader will completely misunderstand your intent. Look back to the three paragraphs on racism a few pages back. The first is almost too “preachy,” and for that reason it may be less effective. The other two, which do not use the same direct line of reasoning, might strike the reader quite differently and so be much more effective.

A good rule is to ask whether your audience is likely to be tired of having the same ideas thrown at them. If so, coming from a new angle may at least perk up the reader’s interest.

How personal should you be?

In general, you do not want to personalize an argument to the extent that it might appear you are asking for someone to like you more than they like your case. The exceptions come in when your own experiences are highly relevant to showing the significance of a particular point.

Also, you should not attempt to address your audience in the
same way as you would if your readers were actually in front of you. Writing already imposes a certain distance between the person expressing herself and the person reading this expression. Most of the time your readers will prefer that you not try to bridge this distance by directing something right at them. There can be exceptions, but think twice before jumping into the second person in your presentation. When you do (as I am doing now) it should be primarily to avoid the awkwardness of the passive voice or of a third-person construction.

What about humor?

Some topics—child abuse, for one—should not be approached with levity. Other topics—something coming up in an election, for instance—might actually invite it.

The most positive effect of humor in a piece of writing meant to make a case is that it defuses a certain tension the reader may feel. Keep in mind that what may be appropriate in a speech might not be so in a written presentation. For that reason, you ordinarily should avoid telling a joke or otherwise engaging in “folksy” writing (what appears often in the columns of a newsletter or a small-town newspaper. Puns should definitely be avoided in most formal writing. The humor you do use otherwise should be organic to the situation you describe, and it should not be commented on otherwise.

How fancy should you be in your vocabulary and phrasing?

Some of the selections you might read, especially in a philosophy textbook, are written in a style that was favored before the twentieth century. Lengthy paragraphs and long, complex sentences peppered with words borrowed from Latin indicated a certain elegance in writing. Often they were the verbal equivalent of the powdered wig and lace cuffs, an indication of social class. The style you use should be
appropriate to your own audience, and you do not have an eighteenth-century audience.

What does matter most is that the terms you use are sufficiently precise. At the least this means avoiding the misuse of words such as “affect” and “effect.” It also means not attempting a greater precision than is called for. For example, in this text terms such as “thought” and “idea” are used almost interchangeably, although someone with an interest in philosophy might wonder whether at one point I was referring to a “mental representation” and at another to a belief. Since ordinarily the distinctions would not matter, there is just no reason to move to a more technical vocabulary. In fact, there are good reasons not to do so.

Your choice of vocabulary is not meant to show your reader (even your instructor) that you know how to use a dictionary or a thesaurus. The only question you should have is whether the words you use do the job you want done in successfully communicating your ideas.

**What about special effects?**

In formal writing you DO NOT want to do what I just did. Avoid block letters, peculiar punctuation, or other devices that might mimic what can be done with the spoken word.

Also, avoid a dialogue format (even though Plato used it) or a piece of story-telling with quotes and all.

**How defensive should you be?**

You may very well want to make a case for an unpopular view. This does not justify approaching your audience antagonistically. It will never justify taking an insulting tone. At the same time, you do not need to apologize, as though your having a different view requires a defense separate from the defense you offer for the view itself.