



## CHAPTER 2



# *Identifying Arguments*

**I**n Chapter 1, we met arguments that looked like this:

1. All philosophers like logic.  
Ned is a philosopher.  
So, Ned likes logic.

In real life, authors don't commonly state their arguments quite so straightforwardly. The conclusion may be given first or sandwiched between premises. A long argument may actually be a chain of shorter arguments. Authors sometimes add extra claims that play no role in the argument but add color or distract the listener. Instead of repeating statements or terms, they sometimes vary their language with synonyms. And they will often leave out claims they believe are too obvious to need stating explicitly. It is much more difficult to evaluate a real-life argument than a well-behaved textbook argument (which we will call "well-crafted arguments"), so it is useful to know how to convert the first kind into the second.

This chapter tells you how to identify arguments as they appear in ordinary language, how to convert them into well-crafted arguments, and how to identify the structure of the arguments.

### 2.1

## **Arguments and Nonarguments**

We must first learn to distinguish arguments from nonarguments. Recall that an argument is a set of statements where some of the statements are intended to support another. One can do many things with language besides argue: extend greetings, tell a story, make a request, express one's feelings, provide information, tell a joke, pray, and so on. In this section, we will examine some nonargumentative uses of statements that are sometimes confused with arguments.

In general, it is important to distinguish between arguments and unsupported assertions. For example:

2. The U.S. unemployment rate was 9.1 percent in July 2011, down from its recent high of 10.1 percent in January 2010.

As it stands, this passage is not an argument but simply a statement about the unemployment rate. No supporting statements (i.e., premises) are provided here, and no inferences are drawn. Of course, supporting statements could be supplied, but because they do not appear in the quoted passage, it is not an argument in and of itself.

Unsupported assertions come in a variety of types, some of which may be confused with arguments. For example, a **report** is a set of statements intended to provide information about a situation, topic, or event. A report may contain many informational statements without containing any arguments. For instance:

3. Total global advertising expenditures multiplied nearly sevenfold from 1950 to 1990. They grew one-third faster than the world economy and three times faster than world population. In real terms, spending rose from \$39 billion in 1950 to \$256 billion in 1990—more than the gross national product of India or than all Third World governments spent on health and education.<sup>1</sup>

Again, these statements could be backed up with further statements, but the passage, as it stands, is a report and not an argument. No inferences are drawn—the passage merely contains a series of informational statements.



A **report** is a set of statements intended to provide information about a situation, topic, or event.

An **illustration** is a statement together with an explanatory or clarifying example:

4. Mammals are vertebrate animals that nourish their young with milk. For example, cats, horses, goats, monkeys, and humans are mammals.

One clue that can help distinguish arguments from nonarguments is the presence of premise and conclusion indicator words. These words, which we'll discuss in more detail in the next section, include "because," "so," "thus," "therefore," and "since" and suggest that the author is intending some of her statements to support another. But we should be a little careful. Although these words *usually* indicate the presence of an argument, they occasionally have other purposes. The word "thus," for example, is sometimes used to introduce an illustration, like this:

5. Whole numbers can be represented as fractions. Thus, 2 can be represented as  $\frac{8}{4}$ , and 5 can be represented as  $\frac{15}{3}$ .

In statement (5), the examples seem merely illustrative. Sometimes, however, examples are given not merely to explain or clarify but to support (provide evidence for) a thesis, in which case the passage in question is an argument rather than an illustration:

6. You just said there are no twin primes greater than 1,000, but that is inaccurate; 1997 and 1999 are both prime.

And sometimes a passage can reasonably be interpreted either as an illustration or as an argument. It all depends on the answer to this question: Do the examples merely clarify (or explain) a statement, or are they used to *provide evidence* for it? If the examples are used to provide evidence, then the passage is an argument.



An **illustration** is a statement together with an explanatory or clarifying example.

An **explanatory statement** provides a reason for the occurrence of some phenomenon. For example:

7. Judy got sick because she ate too much.
8. The dinosaurs are extinct because a “large comet or asteroid struck the earth some 65 million years ago, lofting a cloud of dust into the sky and blocking sunlight, thereby suppressing photosynthesis and . . . drastically lowering world temperatures. . . .”<sup>2</sup>

Such passages are easily confused with arguments since the word “because” is often used to indicate a premise—for example, “Not all mammals are land animals *because* whales are mammals.” Here the word “because” indicates the premise “whales are mammals.” (More on this use of “because” in the next section.) But consider cases (7) and (8) carefully. Statement (7) does not seem to be an argument for the conclusion that Judy got sick, with “she ate too much” as a premise. Rather, (7) is simply the *assertion* that Judy’s sickness was caused by her overeating. And of course, there are other possible explanations for Judy’s sickness, such as an encounter with viruses or food poisoning. But (7) provides no reason to think the “overeating explanation” is true; that is, (7) includes no premises. Hence, (7) is not an argument. Similarly, (8) doesn’t seem to be an argument for the conclusion that dinosaurs are extinct. It is merely the assertion that one possible explanation of the extinction of the dinosaurs is correct.

To see the difference between arguments and explanations, contrast the following:

9. War is wrong because it involves killing innocent people and that is always wrong.
10. Wars happen because human beings are selfish.

In the first of these, the clause that precedes the word “because” is what the author is trying to convince us of. In the second, the clause that precedes “because” is what the author wants to explain. One indicator of the difference is that “war is wrong” is an interesting and controversial claim. It makes sense that someone would try to argue for it, whereas “wars happen” is an accepted fact that no one would need to argue for. Another indicator is that what follows the word “because” in (9) can be seen as providing a reason to believe that *war is wrong*, whereas *human beings are selfish* would not function well to convince someone who did not already know that wars happen.

Of course, sometimes an explanation can itself be the conclusion of an argument. If an explanatory hypothesis is supported by further statements, then we have an argument. For example, many arguments are arguments to the effect that a certain statement or hypothesis is the best explanation of some phenomenon (or that some statement is probably true because it is the best explanation of some phenomenon). These are arguments rather than mere assertions because premises are provided. For instance:

11. Three explanations have been offered for the extinction of the dinosaurs. First, a global rise in temperature caused the testes of male dinosaurs to stop functioning. Second, certain flowering plants (namely, angiosperms) evolved *after* the dinosaurs evolved; these plants were toxic for the dinosaurs, which ate them and died. Third, a large comet struck the earth, causing a cloud of dust that blocked out the sunlight, which in turn created a frigid climate for which the dinosaurs were ill suited. Now, there is no way to get any evidence either for or against the first hypothesis. And the second hypothesis is unlikely because it is probable that angiosperms were in existence 10 million years before the dinosaurs became extinct. There is, however, some evidence in favor of the third hypothesis. If the earth was struck by a large comet at the time the dinosaurs became extinct (some 65 million years ago), then there should be unusually large amounts of iridium (a rare metal) in the sediments of that period, for most of the iridium on Earth comes from comets and other objects from outer space. And, as a matter of fact, unusually large amounts of iridium have been found in the sediments of that period. So, the third explanation seems best.<sup>3</sup>

Passage (11) is an argument because evidence is given to support the claim that one of the three explanations is best.

An **explanatory statement** provides a reason for the occurrence of some phenomenon.

A **conditional statement** is an if-then statement; taken by itself, a conditional statement is not an argument. For instance:

12. If Lucy works hard, then she will get a promotion.

There is some temptation to think that the antecedent (if-clause) of a conditional is a premise and that the consequent (then-clause) is a conclusion. But this is typically not the case. Remember that a conditional statement is hypothetical in nature. Thus, statement (12) merely asserts that if Lucy works hard, then she will get a promotion. It does not assert that Lucy works hard. Nor does it assert that she will get a promotion. By contrast, consider the following argument:

13. Lucy works hard. Therefore, Lucy will get a promotion.

Here, we clearly have a premise–conclusion structure. And the conclusion is asserted on the basis of the premise (which is also asserted).



A **conditional statement** is an if-then statement.

Although conditionals, taken by themselves, are not arguments, they may express an argument in context. For example, during a tournament, a chess coach might give this advice to one of his players: “If you want to beat Moy, you should use the French Defense.” In this context, “you want to beat Moy” need not be explicitly stated; it can be assumed. So, by expressing a conditional, the coach is in effect offering a *modus ponens*–type argument: “If you want to beat Moy, you should use the French Defense. You want to beat Moy. So, you should use the French Defense.” Here’s a slightly more complicated example: A well-known bumper sticker says, “If you can’t trust me with a choice, you can’t trust me with a child.” Clearly, the author of this bumper sticker intends a *modus tollens* argument that says (more or less): “If you can’t trust me with a choice, you can’t trust me with a child. It’s not the case that you can’t trust me with a child. So, it’s not the case that you can’t trust me with a choice.” Note that adding unstated premises (and conclusions) to arguments can get tricky; we will return to this issue later in the chapter. The main point is that conditional statements are not by themselves arguments. If we are tempted to treat them as arguments, that’s because context makes it obvious that authors intend them to be combined with other premises they have left implicit.



### Summary of Definitions

A **report** is a set of statements intended to provide information about a situation, topic, or event.

An **illustration** is a statement together with an explanatory or clarifying example.

An **explanatory statement** provides a reason for the occurrence of some phenomenon.

A **conditional statement** is an if-then statement.

**EXERCISE 2.1**

**PART A: Arguments and Nonarguments** Which of the following passages are arguments? Which are not arguments? If a passage is an argument, identify its conclusion. If a passage is not an argument, classify it as a report, illustration, explanation, or conditional statement.

- \* 1. Americans are materialistic because they are exposed to more advertising than any other people on Earth.
- 2. A person is dead if his or her brain has stopped functioning.
- 3. The world fish catch dropped from its 1989 high of 100 million tons to 97 million tons in 1990 and has remained at about that figure ever since. Harvests have increased in some oceans but have fallen in others. And rising catches of some species are offset by falling catches of others. Breaking with a historical trend of constantly growing catches, stagnation in the global catch now appears likely to continue . . . —Hal Kane, “Fish Catch No Longer Growing,” in Lester Brown, Hal Kane, and Ed Ayres, eds., *Vital Signs 1993: The Trends That Are Shaping Our Future* (New York: Norton, 1993), p. 32
- \* 4. Waging war is always wrong because it involves killing human beings. And killing humans is wrong.
- 5. When we calculate what the surface temperature of the planet should be, based on the heat it radiates to space, we find the whole globe should be a frozen wasteland, colder than today by about 33 degrees Celsius (60 degrees Fahrenheit) on average. The force saving us from this frigid fate is the atmosphere. The layer of air surrounding our globe contains important gases such as water vapor and carbon dioxide, which absorb the heat radiated by Earth’s surface and reemit their own heat at much lower temperatures. We say they “trap” Earth’s radiation and call this planetary warming mechanism the “greenhouse effect.” —National Oceanic and Atmospheric Administration, *The Climate System* (Winter 1991), p. 7
- 6. Never has the nation been safer from foreign menaces, and never before has the nation been graduating students less well educated than those of the immediately preceding generation. These facts warrant this conclusion: Today the principal threat to America is America’s public-education establishment. —George F. Will, *The Leveling Wind* (New York: Viking Press, 1994), p. 199
- \* 7. It’s certainly true that Pluto doesn’t act much like the other planets. Not only is it small and obscure, it’s so changeable in its motions that no one can tell you exactly where it will be in a century. Whereas the other planets orbit on more or less the same plane, Pluto’s orbit shifts out of alignment at an angle of 17 degrees, like the brim of a hat tilted on someone’s head. —Bill Bryson, *A Really Short History of Nearly Everything* (London: Random House, 2008), p. 17
- 8. If corporations are people, then corporations have the right to marry.

9. U.S. food producers feed livestock 20 million tons of plant protein per year that could be consumed by humans, and the livestock yields only 2 million tons of protein.
- \*10. Wars occur because humans desire to control other humans.
11. The earth is getting warmer. Why? There are many reasons, but here are two important ones. First, the burning of coal, oil, and natural gas has greatly increased the carbon dioxide in the atmosphere. And carbon dioxide retains heat. Second, chlorofluorocarbons, which are used in air conditioners and refrigerators, have attacked the ozone layer, thus leaving the earth exposed to ultraviolet rays from the sun.
12. In 1950, the population of the world was about 2.5 billion. In 1967, the population of the world was almost 3.5 billion. In 1980, the population of the world was almost 4.5 billion. And in 1992, the population of the world was almost 5.5 billion. In 2007, it was 6.6 billion. So, the population of the world has grown both steadily and rapidly since 1950.
- \*13. Global oil demand still lies well below the peak level of 1979. Improved energy efficiency and the expanding role of natural gas in many countries is cutting into petroleum's market. But oil is still the world's leading source of energy, supplying 40 percent of the total . . . —Christopher Flavin and Hal Kane, "Oil Production Steady," in Lester Brown, Hal Kane, and Ed Ayres, eds., *Vital Signs 1993: The Trends That Are Shaping Our Future* (New York: Norton, 1993), p. 46
14. Either James died because he was shot or James died because he was hanged. It's false that James died because he was shot. Hence, James died because he was hanged.
15. Not all tyrants avoid prosecution because Hosni Mubarak was tried by his fellow Egyptians.
- \*16. Prime numbers are divisible only by themselves and one. For example, 3, 5, 7, and 11 are prime numbers.
17. If U.S. special operations forces did not kill Osama Bin Laden, then someone else did.
18. Roman numerals as well as Arabic numerals can be used to stand for numbers. Thus, the Roman numeral IX stands for the number 9.
- \*19. If one sets one's heart on humaneness, one will be without evil. —Confucius, *The Analects* (New York: Oxford University Press, 1993), p. 13
20. During the Cold War, the United States pursued a policy of nuclear deterrence. Missiles with nuclear warheads were aimed at many locations in the former Soviet Union. The threat of destruction was real. Had the missiles been launched, millions of innocent people would have been killed. But in my opinion, the U.S. policy of nuclear deterrence was immoral. Let me give you an analogy. Suppose two angry men face each other with machine guns. Behind each one stands many innocent bystanders. Each man holds the other in check by threatening to pull the trigger and thus kill many innocent people. I submit that it is obvious that such men would be acting immorally. Hence, the U.S. policy of nuclear deterrence was immoral also.



21. If it is permissible for humans to eat animals, then it is permissible for super-intelligent extraterrestrials to eat humans.
- \* 22. The good don't always die young because Mother Teresa was a good person.
23. America is a powerful nation primarily because it has one of the strongest economies in the world.
24. Some metals are liquids at room temperature because mercury is a metal.
- \* 25. If driving on the left side of the road is wrong simply because society disapproves of it, then stealing is wrong simply because society disapproves of it. And driving on the left side of the road is wrong simply because society disapproves of it. Therefore, stealing is wrong simply because society disapproves of it.

**PART B: Constructing Arguments** Each of the following statements can be made the conclusion of an argument. For each statement, write down at least one premise that provides some degree of support for it.

- \* 1. It is morally permissible to experiment on nonhuman animals.
2. It is wrong to eat animals.
3. Marijuana should be legalized.
- \* 4. Only violent criminals should be imprisoned.
5. Handguns should be outlawed.
6. Society has an obligation to provide housing for the homeless.
- \* 7. Americans are too individualistic.
8. The world is overpopulated with humans.
9. It is foolish to live in a modern city.
- \* 10. Beauty is in the eye of the beholder.
11. Large corporations have too much political power.
12. Nuclear deterrence is irrational.
- \* 13. It is wrong to misrepresent one's income on a tax form.
14. It is not always wrong for a nation to wage war.
15. Torture is never morally permissible.

## 2.2

## Well-Crafted Arguments

Arguments in ordinary English are often stated in ways that obscure their important logical features. For instance, excess verbiage may make it difficult to determine what the premises actually are. The conclusion may be “camouflaged” in a tangle of premises. Repetition may give the appearance of many premises where there are in fact few. An unhelpful variation in the vocabulary employed may

obscure the linkage between the premises (and/or between the premises and the conclusion). And so on.

Obviously, arguments are easier to evaluate when stated in such a way that their important logical features are explicit. When an argument is so stated, we will refer to it as a **well-crafted argument**. Because well-crafted arguments are, from a logical point of view, easier to evaluate than their less-well-crafted cousins, one of the most important logical skills is the ability to take an argument in ordinary English and rewrite it as a well-crafted one.



A **well-crafted** (version of an) argument is an argument that is stated in such a way that its important logical features are explicit.

It is worth noting that in converting a passage into a well-crafted argument, we are not suggesting that we can write the passage better than the author did or that we are in a better position to express his intentions than he was himself. No doubt he had excellent stylistic or rhetorical reasons for choosing the words he did. We are simply interested in separating the stylistic and rhetorical elements from the logical and evidential elements so that we can determine whether it is sound or cogent, whether it provides us with good reason for believing its conclusion.

How do we do this? The guiding idea is, on the one hand, to preserve the content of the original—what’s being claimed, its truth value and whether it is valid—while, on the other hand, removing what is redundant or confusing or distracting. It’s important to preserve the content of the original, so that we can be fair to the author and so that when we evaluate the well-crafted version and determine that if it is unsound, we can be sure that the original was unsound too. In this section, we will discuss six principles involved in producing well-crafted versions of arguments found in ordinary English.

**Principle 1:** Identify the premises and the conclusion.

Recall that the premises of an argument are the statements on the basis of which the conclusion is affirmed, and statements are sentences or parts of sentences that are either true or false. Each step of an argument, whether premise or conclusion, must be a statement. Consider the following simple example:

**14.** We should abolish the death penalty because it does not deter crime.

This is an argument. The word “because” indicates a premise, as it often does. A well-crafted version of argument (14) looks like this:

**15.** 1. The death penalty does not deter crime.  
So, 2. We should abolish the death penalty.

From now on, when constructing well-crafted versions of arguments, let us adopt the convention of making the conclusion of the argument the final step. Let us also write “so” to mark a conclusion, as we have done here. Further, let us place a number before each step of the argument (whether premise or conclusion). A step of an argument without the word “so” in front of it will be understood to be a premise. In this case, statement (1) is the only premise. We can drop the word “because” since our convention tells us that (1) is a premise.

Argument (14) illustrates two things worth noting. First, the conclusion of an argument often comes first in English prose. Thus, one cannot assume that an author will first state his or her premises and then draw a conclusion later on. In ordinary prose, the order is often reversed.

Second, argument (14) illustrates a typical use of premise indicators—in this case, the word “because.” Premise indicators are words or phrases that are typically followed by a premise. For example:

because	after all
since	the reason is that
for	in light of the fact that
as	based on the fact that

Now, one cannot assume that these words and phrases indicate premises on every occasion of their use. As we have already seen, the word “because” is often used in explanations. But the point here is that these words are frequently used as premise indicators, and knowing this is a great help when rewriting an argument as a well-crafted one.

Just as premise indicators typically signal premises, conclusion indicators typically signal conclusions. Common conclusion indicators include these:

so	thus
therefore	accordingly
hence	consequently
implies that	we may infer that
it follows that	which proves that

Consider the following argument:

- 16.** I was bitten by several dogs when I was a child. Therefore, dogs are dangerous.

A well-crafted version of argument (16) looks like this:

- 17.** 1. I was bitten by several dogs when I was a child.  
So, 2. Dogs are dangerous.

Of course, this argument is weak, but a weak argument is still an argument.

The good news is that authors frequently use premise and conclusion indicators to clarify their intentions. The bad news is that authors often rely on more subtle methods (e.g., context, order, emphasis) to identify the structure of their reasoning. There is no substitute in such cases for logical and linguistic insight. But *a good rule of thumb is to identify the conclusion first*. Once you figure out what the author is trying to prove, the rest of the argument often falls into place.

Let's now consider a slightly more complicated argument:

18. Since the average American consumes 30 times the amount of the earth's resources as does the average Asian, Americans (taken as a group) are selfish. After all, excessive consumption is a form of greed. And greed is selfish desire.

What is the conclusion of the argument? That Americans (taken as a group) are selfish. "Since" is a premise indicator, and so is "after all." Thus, a well-crafted version of the argument looks like this:

19. 1. The average American consumes 30 times the amount of the earth's resources as does the average Asian.  
2. Excessive consumption is a form of greed.  
3. Greed is selfish desire.  
So, 4. Americans (taken as a group) are selfish.

You may be wondering whether the order of the premises matters. From the standpoint of logic, the order makes no difference, so we simply list the premises in the order in which they appear in the original. Note, however, that if an argument is well crafted, the premises must precede the conclusion because our conventions tell us that in a well-crafted version of an argument, the last statement is the conclusion.

As we saw in Chapter 1, conditional statements have a number of stylistic variants. The **standard form** of a conditional statement is "If A, then B." When writing a well-crafted version of an argument, you should put any conditional premises or conclusions into this form. There are two reasons for this. First, most people find it easier to grasp the logical meaning of conditionals when they are in standard form. Second, putting conditionals into standard form facilitates the recognition of argument forms. Consider the following example:

20. It is not permissible to eat cows and pigs, for it is permissible to eat cows and pigs only if it is permissible to eat dogs and cats. But it is not permissible to eat dogs and cats.

Rewriting this argument as a well-crafted one, we get the following:

21. 1. If it is permissible to eat cows and pigs, then it is permissible to eat dogs and cats.  
2. It is not permissible to eat dogs and cats.  
So, 3. It is not permissible to eat cows and pigs.

The argument form is *modus tollens*. Recall that common stylistic variants of “If A, then B” include “B if A,” “B assuming that A,” “B given that A,” “A only if B,” “Given that A, B,” and “Assuming that A, B.”

The **standard form** of a conditional statement is “If A, then B.”

Before leaving the topic of identifying premises and conclusions, we need to address two slight complications involving rhetorical questions and commands. As noted in Chapter 1, not all sentences are statements. For example, questions are sentences, but questions are not statements. There is, however, one kind of question that serves as a disguised statement, namely, the so-called rhetorical question. A *rhetorical question* is used to emphasize a point. No answer is expected because the answer is considered apparent in the context. For example:

22. The common assumption that welfare recipients like being on welfare is false. Does anyone like to be poor and unemployed? Does anyone like to be regarded as a parasite?

In this context, the arguer clearly expects a “no” answer to both questions. So, these questions are in effect statements. And when producing a well-crafted version of the argument, we change them into statements, like this:

23. 1. No one likes to be poor and unemployed.  
2. No one likes to be regarded as a parasite.  
So, 3. The common assumption that welfare recipients like being on welfare is false.

*Commands* (or imperatives) are also usually sentences but not statements. If someone issues the command “Shut the door!” it makes no sense to reply, “That’s true” (or “That’s false”) because no truth claim has been made. However, imperatives sometimes turn up as premises or conclusions in arguments. Such imperatives are disguised “ought” statements. For example, consider the following argument:

24. Be a doctor! You’ve got the talent. You would enjoy the work. You could help many people. And you could make a lot of money!

In this case, the imperative “Be a doctor!” is naturally interpreted as “You ought to be a doctor,” and this latter sentence expresses something either true or false.<sup>4</sup> When an imperative is a disguised “ought” statement, you should make this explicit when constructing a well-crafted version of the argument:

25. 1. You’ve got the talent.  
2. You would enjoy the work.

3. You could help many people.
  4. You could make a lot of money.
- So, 5. You ought to be a doctor.

It would be equally correct to write the conclusion this way: “You should be a doctor.”

**Principle 2:** Eliminate excess verbiage.

**Excess verbiage** is a word or statement that adds nothing to the argument. This material should not be included in the well-crafted version of the argument.

**Excess verbiage** is a word or statement that adds nothing to the argument.

Four types of excess verbiage are extremely common in arguments. One is discounts. A **discount** is an acknowledgment of a fact or possibility that might be thought to render the argument invalid, weak, unsound, or uncogent. For example:

26. Although certain events in the subatomic realm occur at random, I still say that the universe as a whole displays a marvelous order. Perhaps the best evidence for this is the fact that scientists continue to discover regularities that can be formulated as laws.

The conclusion of this argument is “the universe as a whole displays a marvelous order.” The premise is “scientists continue to discover regularities that can be formulated as laws.” But what are we to do with “Although certain events in the subatomic realm occur at random”? It does not seem to be a premise, for events that occur at random are not evidence of order. In fact, the statement “certain events in the subatomic realm occur at random” seems to be evidence *against* the conclusion of the argument. And that is why it is best regarded not as a premise but as a discount.

A **discount** is an acknowledgment of a fact or possibility that might be thought to render the argument invalid, weak, unsound, or uncogent.

Discounts are very important rhetorically. Roughly speaking, **rhetorical elements** are elements in an argument that increase its psychological persuasiveness without affecting its validity, strength, soundness, or cogency. And discounts often increase the psychological persuasiveness of an argument by anticipating potential objections. An audience is often disarmed to some degree by the realization that the arguer has already considered a potential objection and rejected it. But discounts aren’t premises because they don’t support the conclusion.

Therefore, we shall omit them when producing a well-crafted version of an argument. To illustrate, here is a well-crafted version of argument (26):

27. 1. Scientists continue to discover regularities that can be formulated as laws.  
So, 2. The universe as a whole displays a marvelous order.

**Rhetorical elements** are elements in an argument that increase its psychological persuasiveness without affecting its validity, strength, soundness, or cogency.

Discount indicators include these:

- |                           |                            |
|---------------------------|----------------------------|
| although                  | while it may be true that  |
| even though               | while I admit that         |
| in spite of the fact that | I realize that . . . , but |
| despite the fact that     | I know that . . . , but    |

A second type of excess verbiage is repetition. **Repetition** is a restatement of a premise or conclusion, perhaps with slightly altered wording. When this occurs, select the formulation that seems to put the argument in its best light and drop the others. Here's an example:

28. The study of logic will increase both your attention span and your patience with difficult concepts. In other words, if you apply yourself to the subject of logic, you'll find yourself able to concentrate for longer periods of time. You will also find yourself increasingly able to approach complex material without feeling restless or frustrated. Therefore, a course in logic is well worth the effort.

A well-crafted version of argument (28) might look like this:

29. 1. The study of logic will increase both your attention span and your patience with difficult concepts.  
So, 2. A course in logic is well worth the effort.

Now, you may feel that something is lost in dropping the repetition in a case like this, and indeed, something of rhetorical importance is lost. Repetition itself aids memorization. And a slight alteration of terminology can correct possible misunderstandings and/or make an idea more vivid. But our well-crafted version has advantages of its own; in particular, it enables us to focus on the argument's essential logical features.

**Repetition** is a restatement of a premise or conclusion, perhaps with slightly altered wording.

A third type of excess verbiage is the assurance. An **assurance** is a statement, word, or phrase that indicates that the author is confident of a premise or inference. For example:

30. Ben will do well in the marathon, for he is obviously in excellent condition.

Here is a well-crafted version of the argument:

31. 1. Ben is in excellent condition.  
So, 2. Ben will do well in the marathon.

The word “obviously” indicates the author’s confidence in the premise, but it does not contribute to the validity, strength, soundness, or cogency of the argument. Common assurances include these:

obviously	everyone knows that
no doubt	it is well known that
certainly	no one will deny that
plainly	this is undeniable
clearly	this is a fact

Assurances are rhetorically important because confidence often helps win over an audience. But assurances seldom affect the validity, strength, soundness, or cogency of an argument, so they should seldom appear in the well-crafted version of an argument.



An **assurance** is a statement, word, or phrase that indicates that the author is confident of a premise or inference.

A fourth type of excess verbiage is the hedge, which is the opposite of an assurance. A **hedge** is a statement, word, or phrase that indicates that the arguer is tentative about a premise or inference. For instance:

32. In my opinion, we have lost the war on drugs. Accordingly, drugs should be legalized.

“In my opinion” is a hedge, so the well-crafted version of the argument would be as follows:

33. 1. We have lost the war on drugs.  
So, 2. Drugs should be legalized.



Common hedges include these:

I think that	I believe that
it seems that	I guess that
perhaps	it is reasonable to suppose that
maybe	this seems reasonable
in my opinion	this is plausible

Hedges are rhetorically important because without them one sometimes sounds dogmatic and close-minded. But hedges usually do not contribute to the validity, strength, soundness, or cogency of an argument. So, hedges usually should not appear in the well-crafted version of an argument.

A **hedge** is a statement, word, or phrase that indicates that the arguer is tentative about a premise or inference.

Assurances and hedges *usually* can be dropped when we are producing a well-crafted version of an argument. But they cannot always be dropped, for they sometimes contribute to the validity, strength, soundness, or cogency of the argument. For example:

34. I am in pain if it seems to me that I am in pain. And it seems to me that I am in pain. Therefore, I am in pain.

Here's a well-crafted version of the argument:

35. 1. If it seems to me that I am in pain, then I am in pain.  
 2. It seems to me that I am in pain.  
 So, 3. I am in pain.

The main point of this argument is that in the case of pain, there is a special connection between what *seems* to be so and what *is* so. Hence, while we can usually drop “it seems to me that” as a hedge, in this case we cannot. This example underscores the fact that we must remain vigilant when rewriting an argument as a well-crafted one. The role of every word or phrase must be carefully evaluated in context.

**Principle 3:** Employ uniform language.

Compare the following two arguments:

36. If it looks like a duck and quacks like a duck, then it probably is a duck. And it both resembles a duck and cackles like one. So, we have at least to consider the possibility that we have a small aquatic bird of the family *anatidae* on our hands.

37. If it looks like a duck and quacks like a duck then it probably is a duck. It looks like a duck and quacks like a duck. So, it probably is a duck.

Argument (36) appears to have been written by someone using a thesaurus, substituting “small aquatic bird of the family *anatidae*” for “duck,” and so on. This nonuniform language obscures the link between the premises and the conclusion. By contrast, the premise–conclusion linkage is crystal clear in (37). And yet the underlying form of argument is the same in both cases, namely, *modus ponens*.

Here is one well-crafted version of argument (36):

38. 1. If it looks like a duck and quacks like a duck then it probably is a duck.  
2. It looks like a duck and quacks like a duck.  
So, 3. It probably is a duck.

Of course, you might just as well have used “resembles” in place of looks like. The important thing is to stick with one term throughout the argument so as to highlight the logical form or pattern of reasoning.

Before leaving the topic of uniform language, let’s consider one more example:

39. If you study other cultures, then you realize what a variety of human customs there is. If you understand the diversity of social practices, then you question your own customs. If you acquire doubts about the way you do things, then you become more tolerant. Therefore, if you expand your knowledge of anthropology, then you become more likely to accept other people and practices without criticism.<sup>5</sup>

Once again, the lack of uniform language makes it difficult to see whether (and how) the premises logically connect with the conclusion. Here is one well-crafted version of the argument:

40. 1. If you study other cultures, then you realize what a variety of human customs there is.  
2. If you realize what a variety of human customs there is, then you question your own customs.  
3. If you question your own customs, then you become more tolerant.  
So, 4. If you study other cultures, then you become more tolerant.

Now, we can see that the argument actually is a tightly linked chain of reasoning. The use of uniform language is enormously beneficial in exhibiting the logical structure of an argument. By clarifying the linkages between premises and conclusions, uniform language helps us to avoid fuzzy thinking, which frequently stems from the careless use of words. The guiding ideas for when to substitute a word are (a) the substitution makes the structure of the argument clearer and (b) the substitution, in this or any other context, does not change the intended content of the statement. Note that if a substitution loses some of the color or emotional force of the original, that is not a problem.

Note how these principles get applied in the transition from (39) to (40). We substituted “a variety of human customs” for “the diversity of social practices.” This, and other changes, enabled us to see that (39) was really an example of hypothetical syllogism, and hence was valid. Moreover, “a variety of human customs” and “the diversity of social practices” have the same content. The result is less colorful, even more boring, but it suits our purposes in doing logic better.

**Principle 4:** Be fair and charitable in interpreting an argument.

*Fairness* involves being loyal to the original, not distorting the clear meaning. *Charity* is needed when the original is ambiguous in some respect; it involves selecting an interpretation that puts the argument in its best possible light. Both of these concepts need to be explained in some detail.

With regard to fairness, many people tend to read more into an argument than they should. Instead of letting the author speak for him- or herself, they re-create the argument in their own image. Key statements may be loosely reworded or couched in emotionally loaded phrasing. Important premises may be omitted. New premises not provided in the original may be added. And so on. Now, there is indeed a place for identifying assumed but unstated premises in evaluating an argument. (We’ll get to this later in the chapter.) But before one can usefully identify unstated assumptions, one must first accurately represent the *stated* or *explicit* version of the argument without distorting the meaning.

Fairness demands that we not let our biases interfere with the process of providing a well-crafted version that is true to an author’s original intent. For example, if an author argues in favor of euthanasia for permanently comatose patients, it almost certainly distorts his intent to describe himself as in favor of our “playing God.” Similarly, a person who argues against promiscuity does not necessarily believe that all sex is evil, and she should not be so represented in the absence of solid evidence to the contrary. Or, again, someone who supports affirmative action isn’t necessarily advocating the use of strict quotas to achieve greater equality. It is unfair to interpret this person as advocating strict quotas unless he or she has *clearly* stated or implied this.

At the same time, we must not conceive of fairness in too narrow or wooden a fashion. To interpret well, we must take into account various rhetorical devices, such as irony and deliberate exaggeration. Suppose an American newspaper reporter argues as follows:

- 41.** Oh, yes, we are all deeply appreciative of the full and accurate information we received from our government during the Iraq War. So, how can anyone doubt that we received full and accurate information during the war in Libya?

It is widely believed that Americans were sometimes not told the truth by their own government during the Iraq War, so the reporter’s real meaning is probably

the exact opposite of the surface meaning of her words. A well-crafted version of the argument would therefore involve some changes, perhaps along these lines:

- 42.** 1. Americans did not receive full and accurate information from their government during the Iraq War.  
 So, 2. Americans possibly (or probably) did not receive full and accurate information from their government during the war in Libya.

Incidentally, notice that in the well-crafted version, the rhetorical question is phrased as a statement.

Charity enters the picture when an argument has been presented unclearly. Perhaps a premise can be understood in either of two ways. Or perhaps the structure of the argument is unclear—which statement is supposed to support which? Where such ambiguities occur, charity demands that we put the argument in its best possible light. In other words, when we are confronted with an interpretive choice, we should try to select an interpretation that makes the argument valid, strong, sound, or cogent (as the case may be) rather than invalid, weak, unsound, or uncogent. For instance:

- 43.** Flag burning should be outlawed. I realize that there are worse things than flag burning, such as murder or kidnapping, but it ought to be illegal. Many people are disturbed by it. And it is unpatriotic. How important is freedom of expression, anyway?

Consider the following attempt at a well-crafted version:

- 44.** 1. Many people are disturbed by flag burning.  
 2. Flag burning is unpatriotic.  
 3. Freedom of expression is not important.  
 So, 4. Flag burning should be outlawed.

Premise (3) is stated in an uncharitable fashion. Admittedly, the meaning of the question “How important is freedom of expression, anyway?” is unclear. But as stated, premise (3) is an easy target. Charity demands that we rephrase premise (3), perhaps along these lines: “Freedom of expression is not the most important thing” or “Freedom of expression is not the highest value.”

Sometimes there are several possible interpretations of an argument that is incomplete or ambiguous. For example, if you hear someone argue that “Every woman has a right to do what she wants with her body,” and hence, that abortion is permissible, you may wonder whether she means, “Every woman has the right to do what she wants with her body—with no restrictions, no matter how it affects others—including, using her body to punch and kick etc.,” or whether she means something more restricted, like “Every woman has the right to do what she wants with her body as long as it does not harm others.” In such cases,

if the person offering the argument is available, it is a good idea to ask her which interpretation she intended. If she is not available, it is a good idea to present and evaluate *both* versions of her argument.

**Principle 5:** Do not confuse subconclusions with (final) conclusions.

In reconstructing arguments, you will often find that an author has argued by steps, first arguing for one claim, which we will call a “subconclusion,” and then using that subconclusion to argue for a final conclusion. Consider this example:

45. It is not always moral to save five lives at the cost of one life. For if it is always moral to save five lives at the cost of one life, then it is moral to remove the organs of a healthy person *against his wishes* and transplant them in five people who need organ transplants. But it is not moral to perform such transplants because doing so violates the rights of the healthy person. Therefore, it is not always morally right to save five lives at the cost of one life.

Here is a well-crafted version of the argument:

46. 1. If it is always moral to save five lives at the cost of one life, then it is moral to remove the organs of a healthy person against his wishes and transplant them in five people who need organ transplants.  
 2. Removing the organs of a healthy person against his wishes and transplanting them in five people who need organ transplants violates the rights of the healthy person.  
 So, 3. It is not moral to remove the organs of a healthy person against his wishes and transplant them in five people who need organ transplants.  
 So, 4. It is not always moral to save five lives at the cost of one life.

Note that premise (2) supports subconclusion (3). This structure is required by the premise indicator “because” in argument (45). And final conclusion (4) follows from (3) and (1), which work together as a logical unit (the form is *modus tollens*). To make the structure of the argument clear, shorthand expressions in the original, such as “doing so,” are here expanded and made explicit. (The extent to which this is helpful in a given case is a matter of judgment.)

Let us adopt the convention of always listing the (final) conclusion of the argument as the last step in the well-crafted version, marked by the word “So.” Subconclusions are also marked by the word “So” and are distinguished from (final) conclusions because they have a dual role—that is, they are supposed to follow from earlier steps in the argument and to support later steps. Of course, a subconclusion in fact may not be adequately supported by earlier steps, and it may not adequately support any later steps. But the well-crafted version is supposed to represent the arguer’s intentions, even if those intentions are logically flawed.

Another way to think about subconclusions is to think about why an author would use them. In the last section, there is an exercise that asks you to construct your own arguments for various conclusions. This exercise provides some useful insight, from a different point of view, into the structure of arguments. Suppose you believe and want to argue that capital punishment is wrong. To provide a good argument for this, you need premises that are true and provide good reasons to believe the conclusion. Well, why do you think capital punishment is wrong? Perhaps because you believe “Capital punishment kills human beings.” You need to link that to the conclusion. So, let’s add, “It is always wrong to kill human beings.” But then perhaps you note that this isn’t true (or at least isn’t widely agreed to be true). Someone who disagrees with you will almost certainly bring up killing in self-defense or killing in the pursuit of a just war. So, to make your premise more plausible you modify it to read: “Killing a human being is always wrong unless doing so saves a larger number of lives.” That still won’t be universally accepted, but it is more plausible.

But now note that your argument reads:

47. Killing a human being is wrong unless doing so saves a larger number of lives. Capital punishment kills a human being. So, capital punishment is wrong.

Unfortunately, the changes have made the new argument invalid. To make it valid, change the second premise to read: “Capital punishment kills a human being without saving a larger number of lives.” But now this premise is less obviously true. It is uncontroversial that capital punishment takes lives, but it is often argued that it saves a larger number of lives in the process. If you have reason to believe that this is false, it would be a good idea to include that reason as support for your claim “Capital punishment kills a human being without saving a larger number of lives.” Perhaps you recall statistics you encountered in a sociology class that showed that, on average, the murder rate is higher in states that practice capital punishment than in states that do not practice capital punishment. Now, you can use that to support your contention that capital punishment is not a deterrent and, hence, does not save a larger number of lives.

Your resulting argument will look like this:

48. 1. Capital punishment kills a human being.  
2. The murder rate is higher in states that practice capital punishment than in states that do not practice capital punishment.  
So, 3. Capital punishment is not a deterrent.  
So, 4. Capital punishment does not save lives.  
5. Killing a human being is always wrong unless doing so saves a larger number of lives.  
So, 6. Capital punishment is wrong.

Notice lines 3 and 4. They start with the word “So,” which makes them conclusions, and yet they are used to support 6. In other words, they function as both premises and conclusions, that is, as subconclusions.

When evaluating an argument with subconclusions, you must evaluate the support for each subconclusion as well as the support for the final conclusion of the argument. For example, if the argument for a given subconclusion is weak or invalid, then the overall argument is logically flawed. However, even if a given subconclusion is poorly supported by a premise that is supposed to support it, the overall argument may still retain merit under two conditions: (a) The subconclusion is adequately supported by other premises in the argument or (b) the subconclusion is plausible taken all by itself.

**Principle 6:** Make explicit obviously implicit premises in a charitable way.

An **enthymeme** is an argument with an implicit premise or conclusion. For example:

49. Obviously, not all mammals are land animals. Think of whales, porpoises, dolphins, and so on.

In such a case, it would be inappropriate to object that this argument is invalid. It is clear that the author knows (and knows that we know) that whales and so on are mammals and that they are not land animals. To state this explicitly would be unnecessarily pedantic in everyday discourse. In the well-crafted version of the argument, however, where our goal is to make the logic of the argument as clear as possible, we need to make the implicit premise explicit. So, a well-crafted version of argument (49) would be as follows:

50. 1. Whales, porpoises, and dolphins are mammals.  
 2. Whales, porpoises, and dolphins are not land animals.  
 So, 3. Not all mammals are land animals.

An **enthymeme** is an argument with an implicit premise or conclusion.

When we fill in missing steps in an argument, we must adhere to the principles of fairness and charity. This means that, to the extent possible, added steps should be intended by the speaker, should be true (or at least plausible), and should make the argument valid (if it is deductive) or strong (if it is inductive).

These latter goals sometimes conflict. There might be a way to complete the argument that makes all the premises true and a way to complete the argument that makes it strong or valid, but no way to do both. We might have

to choose whether to treat the argument as inductive or as deductive. For example:

51. Bob is a professional basketball player. So, Bob is tall.

What's the missing premise here: (a) "All professional basketball players are tall," or (b) "Most professional basketball players are tall," or (c) "98.7 percent of basketball players are tall"? We can rule out (c). Even if it is true, nothing in the context gives us reason to suppose that this is what the speaker intended. As a general point, note that we shouldn't put words in the speaker's or author's mouth unless her words or the context indicate that this is part of her intention. What about (a) and (b)? The addition of (a) makes the argument valid, but it is false. Allen Iverson and Steve Nash aren't tall. The addition of (b), on the other hand, makes the argument cogent. Since it is more charitable to attribute a cogent argument to an arguer than a valid but unsound one, (b) seems the best choice.

Here's a more interesting example:

52. Some of Shakespeare's plays were first published or performed after 1610.  
So, Shakespeare couldn't have (been the man who) died in 1604.

This argument is plainly an enthymeme. But what extra premise will best complete it? One suggestion is, (a) "Playwrights don't write plays after they are dead." Another is, (b) "Playwrights don't publish or perform their plays after they are dead." Another is, (c) "Plays are not first published or performed after the playwright is dead."

Premises (a) and (b) are true, but they leave the argument invalid. It just doesn't follow from the fact that a play was first published or performed at a certain date, and the fact that it couldn't have been written or performed by a dead man on that date, that it wasn't written earlier. On the other hand, although it makes the argument valid, premise (c) is not true.

This example illustrates an important aspect of principle 6. Use of this principle may seem to be a simple act of generosity to the arguer, helping her make her argument clearer. But it is also useful in rebutting an argument. If we do not make the implicit premise explicit, there is a danger that we will be swept along by it without examining it too carefully. If you hear argument (52), you might be tempted to think it obviously sound—perhaps because you don't carefully distinguish between the version with premise (a) and the version with (c). When you go to the trouble of making the implicit premise explicit, you see that there are two or more possible versions, each of which is flawed.

We should note that sometimes an arguer will leave his or her *conclusion* implicit. For example, the familiar bumper sticker that says, "Abortion stops a beating heart," plainly has both an implicit premise, "It is wrong to stop a beating heart," and an implicit conclusion, "So, abortion is wrong."



## Summary of Principles for Constructing Well-Crafted Arguments

1. Identify the premises and the conclusion.
2. Eliminate excess verbiage (e.g., discounts, repetition, assurances, hedges).
3. Employ uniform language.
4. Be fair and charitable in interpreting an argument.
5. Do not confuse subconclusions with (final) conclusions.
6. Make explicit obviously implicit premises in a charitable way.

## Summary of Definitions

The **standard form** of a conditional statement is “If A, then B.”

**Excess verbiage** is a word or statement that adds nothing to the argument.

A **discount** is an acknowledgment of a fact or possibility that might be thought to render the argument invalid, weak, unsound, or cogent.

**Rhetorical elements** are elements in an argument that increase its psychological persuasiveness without affecting its validity, strength, soundness, or cogency.

**Repetition** is a restatement of a premise or conclusion, perhaps with slightly altered wording.

An **assurance** is a statement, word, or phrase that indicates that the author is confident of a premise or inference.

A **hedge** is a statement, word, or phrase that indicates that the arguer is tentative about a premise or inference.

An **enthymeme** is an argument with an implicit premise or conclusion.

## EXERCISE 2.2

**PART A: Identifying Arguments** If a given passage is an argument, write a well-crafted version of it. (Be sure to apply the first five principles developed in this section. Pay especially close attention to premise and conclusion indicators. Do NOT add unstated premises. Do NOT delete premises unless they are repetitious.) If a passage is not an argument, simply write “not an argument.”

- \* 1. The defendant is not guilty of murder since she is insane.
- 2. One does not worry about the fact that other people do not appreciate one. One worries about not appreciating other people. —Confucius, *The Analects*, trans. Raymond Dawson (New York: Oxford University Press, 1993), p. 5

3. America is in many ways different from Britain, but the two countries today are alike in their extremes of inequality, and in the desire of many politicians to solve economic and social ills by reducing the power of the state. Britain's current crisis should cause us to reflect on the fact that a smaller government can actually increase communal fear and diminish our quality of life. Is that a fate America wishes upon itself? —Richard Sennett and Saskia Sassen, "Cameron's Broken Windows," *New York Times*, August 11, 2011
- \* 4. All the world's farms currently produce enough food to make every person on the globe fat. Even though 800 million people are chronically underfed (6 will die of hunger-related causes while you read this article), it's because they lack money and opportunity, not because food is unavailable in their countries. The UN Food and Agriculture Organization (FAO) reports that current food production can sustain world food needs even for the 8 billion people who are projected to inhabit the planet in 2030. —Barbara Kingsolver, *Animal, Vegetable, Miracle* (New York: HarperCollins, 2007), p. 18
5. It can hardly be denied that people fear death more than they fear life imprisonment. Are we not then forced to conclude that the death penalty is a greater deterrent than life imprisonment?
6. "If you are in good health and averagely diligent about hygiene, you will have a herd of about one trillion bacteria grazing on your flesh—about 100,000 of them on every square centimeter of skin." —Bill Bryson, *A Really Short History of Nearly Everything* (London: Random House, 2008), p. 110
- \* 7. Since affirmative action involves giving a less qualified person the job, affirmative action is unjust. After all, the most qualified person deserves the job.
8. Abraham Lincoln died because John Wilkes Booth shot him with a pistol.
9. If alcoholism is a disease, then it is treated medically. But alcoholism is not treated medically, for the primary mode of treatment is the 12-step program of Alcoholics Anonymous. And AA's 12-step program is religious in nature. Therefore, alcoholism is not a disease.
- \* 10. Since 9/11, America has been engaged in a war on terror in many parts of the world.
11. A galaxy is a complex system of many stars. The galaxy in which we live is called the Milky Way. It is shaped like a hamburger bun 10,000 light years thick and 100,000 light years in diameter. It contains most of the stars we are able to see at night. But there is one of these stars which we can never see at night; we call this star the Sun. It is about 93 million miles away. Orbiting the Sun at 66,600 miles per hour is our own personal space vehicle, the planet Earth. . . . The Milky Way is also spinning around. We are in orbit around the center of the Milky Way at the fantastic speed of 600,000 miles an hour. —A. R. Patton, *Science for the Non-Scientist* (Minneapolis: Burgess, 1962), p. 27
12. While it is true that people in general fear death more than they fear life in prison, most murders are crimes of passion. That is to say, most murderers, at the time when they commit the act, are so full of hate or anger that they

are completely unconcerned with the long-term consequences of their actions. How, then, can anyone assert with confidence that the death penalty deters murder?

- \* 13. As carbon dioxide warms the planet, it also seeps into the oceans and acidifies them. Sometime this century they may become acidified to the point that corals can no longer construct reefs, which would register in the geologic record as a “reef gap.” Reef gaps have marked each of the past five major mass extinctions. The most recent one, which is believed to have been caused by the impact of an asteroid, took place 65 million years ago, at the end of the Cretaceous period; it eliminated not just the dinosaurs, but also the plesiosaurs, pterosaurs, and ammonites. The scale of what’s happening now to the oceans is, by many accounts, unmatched since then. To future geologists, our impact may look as sudden and profound as that of an asteroid. —Elizabeth Kolbert, “Enter the Anthropocene: Age of Man,” *National Geographic*, March 2011, p. 77
- 14. Pacifists are either deeply insightful or greatly mistaken. But if pacifists are deeply insightful, then it is immoral for a police officer to kill a sniper who is firing at schoolchildren. Frankly, I don’t think it takes a moral genius to see that it isn’t wrong for a police officer to kill a sniper who is firing at schoolchildren. So, in my opinion, pacifists are not deeply insightful. And hence, in my estimation, they are greatly mistaken.
- 15. Robert Provine of the University of Maryland has found that people are thirty times more likely to laugh when they are with other people than when they are alone. When people are in bonding situations, laughter flows. Surprisingly, people who are speaking are 46% more likely to laugh during conversation than people who are listening. And they’re not exactly laughing at hilarious punch lines. Only 15% of the sentences that trigger laughter are funny in any discernible way. —David Brooks, *The Social Animal* (New York: Random House, 2011), p. 42
- \* 16. Obviously, empirical data are scientific. But only what can be falsified (i.e., what can in principle be shown false) is scientific. Therefore, although many people regard empirical data as fixed and unchangeable, empirical data can be falsified.
- 17. Joan and Carl had been living together for a year and had maintained their separate friendships with both sexes. They were in agreement that they were committed to monogamy, but did not want to sacrifice the opportunity to have close friends. This informal contract proved to be workable, until Carl began spending time with his young research assistant who was in the process of going through a divorce. In response, Joan found herself feeling jealous, threatened, and angry. —Harriet Goldhor Lerner, *The Dance of Anger* (New York: Harper & Row, 1985), p. 104
- 18. In spite of the fact that the vast majority of contemporary scientists and intellectuals accept the theory of evolution, it is highly questionable for at least two reasons. First, the probability of life evolving from nonlife is so low as to be in the category of the miraculous. Second, if evolution is true, then

there are “missing links” (e.g., animals midway between reptiles and birds). But apparently there are no “missing links” since the fossil record contains none. Therefore, the theory of evolution is very much open to question.

- \*19. In Stanley Milgram’s obedience experiments, first performed at Yale in 1963, subjects were ostensibly recruited to take part in a study of memory. They were then duped into believing they were to be “teachers” in an experiment in which they would administer painful electric shocks of increasing strength to “learners” whenever the latter made mistakes. The so-called learners were actually actors who grunted, screamed, begged to be released from the experiment. As the subject-teachers administered what they thought was ever stronger punishment, they were observed to see whether they continued or protested, and what their reactions were. A large fraction of them were induced to give the highest range of electric shock, even when the pseudo-learners cried out that they feared a heart attack. —Sissela Bok, *Lying: Moral Choice in Public and Private Life* (New York: Random House, 1978), p. 193
- 20. While many endorse the principle of *equal pay for equal work*, the principle is untrue, for it would have disastrous results if it were applied to college employees. Why? Because faculty salaries differ markedly by discipline (e.g., professors of engineering receive much higher salaries than professors of English literature). So, if colleges gave equal pay for equal work, they would either (a) go broke paying all faculty high salaries or (b) demoralize the more highly paid faculty with severe pay cuts. Obviously (a) would be disastrous, and so would (b).

**PART B: Identifying Missing Premises** Write well-crafted versions of these arguments, with implicit premises made explicit.

- \* 1. Every woman has the right to do what she wants with her own body. So, we have a right to abortion.
- 2. Abortion is wrong because it kills unborn human beings.
- 3. Kurt is a cardiologist. So, he must be smart.
- \* 4. Don’t worry. Harry won’t be killed at the beginning of book 2. He’s the hero of the story.
- 5. God created us. So, we ought to do whatever he tells us to do.
- 6. It’s your turn to wash the dishes. I did it yesterday.
- \* 7. Capital punishment should be abolished. There have been documented cases of an innocent person being wrongly convicted and executed.
- 8. The evidence regarding the deterrence effect of capital punishment is inconclusive. So, there’s a chance that capital punishment saves lives. So, we should continue to practice capital punishment.
- 9. William Shakspere of Stratford-on-Avon couldn’t have been the author of *Hamlet*, *Macbeth*, and so forth. After all, William Shakspere was an uneducated man who had an illiterate daughter and owned no books.
- \*10. This class is too easy for me. I find it very boring.

11. I can't think of any reason that would justify God in allowing so many horrible instances of suffering. So, there is no reason that would justify God in allowing so many horrible instances of suffering.
12. The only people who did well in history 307 wrote essays that simply parroted the professor's opinions. I conclude that Janice simply parroted the professor's opinions.
- \* 13. Don't tell me to behave myself! Well-behaved women rarely make history.

**PART C: More Identifying Arguments** If a given passage is an argument, write a well-crafted version of it. (Do NOT add unstated premises. Do NOT delete premises unless they are repetitious.) If a passage is not an argument, simply write "not an argument."

- \* 1. The ozone layer has a hole in it primarily because of the large amounts of chlorofluorocarbons that have been released into the atmosphere. These chemicals are manufactured by human beings for use in refrigerators and air conditioners.
2. The most essential and fundamental aspect of culture is the study of literature, since this is an education in how to picture and understand human situations. —Iris Murdoch, *The Sovereignty of the Good* (London: Ark, 1970), p. 34
3. A significant motivation for anti-realism about morality is found in worries about the metaphysics of moral realism and especially worries about whether moral realism might be reconciled with (what has come to be called) naturalism. . . . According to naturalism, the only facts we should believe in are those countenanced by, or at least compatible with, the results of science. To find, of some putative fact, that its existence is neither established by, nor even compatible with science, is to discover, as naturalism would have it, that there is no such fact. If moral realism requires facts that are incompatible with science (as many think it does) that alone would constitute a formidable argument against it. —Sayre-McCord, Geoff, "Moral Realism," *The Stanford Encyclopedia of Philosophy* (Summer 2011 Edition), Edward N. Zalta (ed.)
- \* 4. Americans put almost as much fossil fuel into our refrigerators as our cars. We're consuming about 400 gallons of oil a year per citizen—about 17% of our nation's energy use—for agriculture, a close second to our vehicular use. —Barbara Kingsolver, *Animal, Vegetable, Miracle* (New York: HarperCollins, 2007), p. 5
5. If someone believes something, we needn't always be able to answer the question "Why does he believe it?"; but if he knows something, then the question "How does he know?" must be capable of being answered. —Ludwig Wittgenstein, *On Certainty*, eds. G. E. M. Anscombe and G. H. von Wright (New York: Harper & Row, 1972), p. 72
6. We live in the best of all possible worlds. For there is a God. And if God exists, a perfect being exists. Moreover, if God exists, God created the world.

So, a perfect being created the world. But if a perfect being created the world, then we live in the best of all possible worlds.

- \* 7. I emphatically deny that each culture should be judged only by its own moral standards, for if each culture should be judged only by its own moral code, then no culture's moral standards should be criticized. But the ethical standards of some cultures ought to be criticized because some cultures permit slavery, cannibalism, or the oppression of women. Hence, it is not the case that each culture should be judged only by its own ethical standards.
- 8. Failure to study literature in a technical way is generally blamed, I believe, on the immaturity of the student, rather than on the unpreparedness of the teacher. I couldn't pronounce on that, of course, but as a writer with certain grim memories of days and months of just "hanging out" in school, I can at least venture the opinion that the blame may be shared. At any rate, I don't think the nation's teachers of English have any right to be complacent about their service to literature as long as the appearance of a really fine work of fiction is so rare on the best-seller lists, for good fiction is written more often than it is read. —Flannery O'Connor, *Mystery and Manners* (New York: Noonday Press, 1957), p. 127
- 9. Americans of this generation read less than those of the previous generation. What explains this fact? In a word, television.
- \* 10. We [Americans] had roughly 10,000 handgun deaths last year. The British had 40. In 1978, there were 18,714 Americans murdered. Sixty-four percent were killed with handguns. In that same year, *we had more killings with handguns by children 10 years old and younger than the British had by killers of all ages*. The Canadians had 579 homicides last year; we had more than 20,000. —Adam Smith, "Fifty Million Handguns," *Esquire*, April 1981, p. 24
- 11. Either murderers are rational enough to be deterred by the death penalty or they are not. If they are not rational enough to be deterred by the death penalty, then the death penalty is not necessary. On the other hand, if murderers are rational enough to be deterred by the death penalty, then they are rational enough to be deterred by life imprisonment. And if murderers are rational enough to be deterred by life imprisonment, then capital punishment isn't necessary. So, the death penalty is not necessary. Now, if the death penalty isn't necessary, it should be abolished. Therefore, we should get rid of capital punishment.
- 12. It may fairly be said that a just man becomes just by doing what is just, and a temperate man becomes temperate by doing what is temperate, and if a man did not so act, he would not have much chance of becoming good. But most people, instead of acting, take refuge in theorizing; they imagine that they are philosophers and that philosophy will make them virtuous; in fact, they behave like people who listen attentively to their doctors but never do anything that their doctors tell them. But a healthy state of the soul will no more be produced by this kind of philosophizing than a healthy state of the body by this kind of medical treatment. —Aristotle's *Nicomachean Ethics*, trans. James Weldon (New York: Macmillan, 1897), Bk. II, chap. 3

- \* 13. It is now widely recognized that absolute proof is something which the human being does not and cannot have. This follows necessarily from the twin facts that deductive reasoning cannot have certainty about its premises and that inductive reasoning cannot have certainty about its conclusions. —Elton Trueblood, *A Place to Stand* (New York: Harper & Row, 1969), p. 22
14. Although advocates of the “pro-choice” view sometimes claim that a woman has an unlimited right over what happens in and to her own body, this claim is plainly false. For if a woman has an unlimited right over what happens in and to her own body, then she has the right to drink heavily during pregnancy. But if drinking lots of alcohol during pregnancy causes birth defects, then a woman does not have the right to drink heavily during pregnancy. And it is a well-known fact that heavy drinking during pregnancy does cause birth defects. So, a woman does not have the right to drink heavily during pregnancy. And therefore, a woman does not have an unlimited right over what happens in and to her own body.
15. Although rewards and punishments do indeed play a role in its formation, they do not by themselves *yield* the moral life. The tendency to avoid acting in a racist manner may first be developed in children by rewards and punishments, but they are not yet moral agents until they act in nonracist fashion even when discipline is not in view, and do so by acting *on the principle* of love and respect. —Nicholas P. Wolterstorff, *Educating for Responsible Action* (Grand Rapids, MI: Eerdmans, 1980), pp. 48–49
- \* 16. The conscientious law breaking of Socrates, Gandhi, and Thoreau is to be distinguished from the conscientious law testing of Martin Luther King, Jr., who was not a civil disobedient. The civil disobedient withholds taxes or violates state laws knowing he is legally wrong but believing he is morally right. While he wrapped himself in the mantle of Gandhi and Thoreau, Dr. King led his followers in violation of state laws he believed were contrary to the federal Constitution. But since Supreme Court decisions in the end generally upheld his many actions, he should not be considered a true civil disobedient. —Lewis H. Van Dusen, Jr., “Civil Disobedience: Destroyer of Democracy,” in Lynn Z. Bloom, ed., *The Essay Connection*, 4th ed. (Lexington, MA: Heath, 1995), pp. 564–565
17. In 1992, a small group of researchers in England went looking for talent. They couldn’t find it. . . . By age twelve, the researchers found, the students in the most elite group were practicing an average of two hours a day versus about fifteen minutes a day for the students in the lowest group, an 800 percent difference. —Geoff Colvin, *Talent Is Overrated* (New York: Penguin, 2010), pp. 17–18
18. Terrorism is the threat or use of violence against noncombatants for political purposes. In ordinary war, the deaths of civilians are side effects of military operations directed against military targets. In terrorist operations, the civilian is the direct and intentional target of attack. Therefore, George Washington was not a terrorist; but neither were the truck-bombers who attacked the

Marine compound in Beirut in 1983, though they are commonly described as such; on the other hand, when states use murder and torture to crush political dissent (a common occurrence throughout the twentieth century), they engage in terrorism. —Douglas P. Lackey, *The Ethics of War and Peace* (Englewood Cliffs, NJ: Prentice-Hall, 1989), p. 85 (Note: Parts of the conclusion are paraphrased.)

- \*19. I find every [religious] sect, as far as reason will help them, make use of it gladly: And where it fails them, they cry out. It is a matter of faith, and above reason. —John Locke, *An Essay Concerning Human Understanding*, Bk. IV, chap. XVIII, p. 2
- 20. All segregation statutes are unjust because segregation distorts the soul and damages the personality. It gives the segregator a false sense of superiority, and the segregated a false sense of inferiority. To use the words of Martin Buber, the great Jewish philosopher, segregation substitutes an “I-it” relationship for the “I-thou” relationship, and ends up relegating persons to the status of things. So segregation is not only politically, economically and sociologically unsound, but it is morally wrong and sinful. Paul Tillich has said that sin is separation. Isn’t segregation an existential expression of man’s tragic separation, an expression of his awful estrangement, his terrible sinfulness? So I can urge men to disobey segregation ordinances because they are morally wrong. —Martin Luther King, Jr., “Letter from the Birmingham City Jail,” in James Rachels, ed., *The Right Thing to Do* (New York: Random House, 1989), pp. 242–243

**PART D: Argument Forms and Well-Crafted Arguments** Write a well-crafted version of each of the following arguments. Indicate which steps support each subconclusion. Also, identify the following forms wherever they appear: *modus ponens*, *modus tollens*, hypothetical syllogism, disjunctive syllogism, and constructive dilemma. To save laborious writing, use capital letters (as indicated) to stand for the statements composing the arguments. (See the Answer Key for an illustration.)

- \* 1. Large corporations have done much to weaken family ties given that the corporations require a high degree of mobility on the part of their employees, for a high degree of mobility ensures that families will be separated geographically. And the corporations do require a high degree of mobility on the part of their employees. Hence, large corporations have done much to weaken family ties. (L: Large corporations have done much to weaken family ties; M: The corporations require a high degree of mobility on the part of their employees; H: A high degree of mobility ensures that families will be separated geographically.)
- 2. It is wrong to risk one’s life unnecessarily. But given that it is wrong to risk one’s life unnecessarily, it is wrong to race autos. Hence, it is wrong to race autos. And if it is wrong to race autos, then the Indy 500 should be banned, even though most Americans enjoy watching it. Therefore, the Indy 500 should be banned. (W: It is wrong to risk one’s life unnecessarily; A: It is wrong to race autos; I: The Indy 500 should be banned.)



3. If the Democrats win, our taxes will go up. If the Republicans win, important government programs will be cut. Either the Democrats will win or the Republicans will win. So, either our taxes will go up or important government programs will be cut. (D: The Democrats win; R: The Republicans win; T: Our taxes will go up; P: Important government programs will be cut.)
- \* 4. God predestines human acts only if God fully causes human acts. God fully causes human acts only if humans lack free will. So, God predestines human acts only if humans lack free will. But humans do not lack free will. Hence, God does not predestine human acts. (P: God predestines human acts; C: God fully causes human acts; F: Humans lack free will.)
5. Nowadays many people are moral relativists; that is, they hold that one should act in the way one's society says one should act. But consider the following argument: "If moral relativism is true, then everyone who advocates reform (i.e., changing the societal code) is mistaken. Not everyone who advocates reform is mistaken. Therefore, moral relativism is not true." (M: Moral relativism is true; E: Everyone who advocates reform is mistaken.) —Fred Feldman, *Introductory Ethics* (Englewood Cliffs, NJ: Prentice-Hall, 1978), p. 166 (Note: The passage is slightly altered for use as an exercise.)
6. Either the order in the world is due merely to chance or the order in the world is due to intelligent design. The order in the world is not due merely to chance. So, the order in the world is due to intelligent design. Now, there is a God, assuming that the order in the world is brought about by intelligent design. Hence, God exists. (O: The order in the world is due merely to chance; D: The order in the world is due to intelligent design; G: God exists.)
- \* 7. Either ethical relativism is true or absolutism is true. It is not the case that absolutism is true since it is not always wrong to kill a human being. So, ethical relativism is true. (E: Ethical relativism is true; A: Absolutism is true. W: It is always wrong to kill a human being.)
8. Either the defendant should be put to death or he should be permanently hospitalized. For either the defendant is guilty or he is insane. And assuming that he is guilty, he should be put to death. But assuming that he is insane, he should be permanently hospitalized. Obviously, the defendant should not be put to death if the evidence is less than compelling. And the evidence is less than compelling. So, the defendant should not be put to death. And hence, the defendant should be permanently hospitalized. (D: The defendant should be put to death; H: The defendant should be permanently hospitalized; G: The defendant is guilty; I: The defendant is insane; E: The evidence is less than compelling.)
9. Humans have souls. For, assuming that humans are identical with their bodies, human acts are determined by prior states of the physical universe. And if human acts are determined by prior states of the physical universe, then humans lack free will. So, humans lack free will if humans are identical with their bodies. But obviously, humans do not lack free will. Therefore, humans are not identical with their bodies. And if humans are not identical with

their bodies, then they must have souls. (S: Humans have souls; B: Humans are identical with their bodies; D: Human acts are determined by prior states of the physical universe; F: Humans lack free will.)

- \*10. If Syria attacks Israel, Israel will counterattack. If Israel counterattacks, then the other Arab states will join in. So, if Syria attacks Israel, then the other Arab states will join in. If the other Arab states join in, then the United States will defend Israel. So, if Syria attacks Israel, the United States will defend Israel. And if the United States defends Israel, there will be a world war. Therefore, if Syria attacks Israel, there will be a world war. (S: Syria attacks Israel; C: Israel will counterattack; A: The other Arab states will join in; U: The United States will defend Israel; W: There will be a world war.)

## 2.3 Argument Diagrams

Arguments consist of premises and conclusions. Understanding the relationships between these makes an argument easier to evaluate. Does the argument consist of several premises that jointly support the conclusion? Does it consist of several premises that each, separately, support the conclusion? Does it consist of a series of steps, the first of which supports the second, the second of which supports the third? Which of these structures an argument has makes a difference to how one goes about evaluating it. For this reason, it is useful to be able to diagram the structure of an argument. Argument diagrams are of interest for at least two other reasons: (a) They provide a shorthand method of representing logical relationships and (b) they highlight certain important differences in the types of logical structure.

To diagram an argument, one first places brackets around each statement in the argument, taking note of any premise or conclusion indicators and numbering each statement. To illustrate:

53. <sup>1</sup>[Campaign reform is needed] because <sup>2</sup>[many contributions to political campaigns are morally equivalent to bribes.]

We will use an arrow to indicate the relationship of support between premise and conclusion. The arrow is drawn downward from the number that stands for the premise to the number that stands for the conclusion. Thus, the diagram for argument (53) looks like this:



The arrow means that (1), the conclusion, is affirmed on the basis of (2), the premise. In other words, (2) is given as a support for (1).

Subconclusions can readily be accommodated using this procedure. Here is an example:

54. <sup>1</sup>[Charles is unpleasant to work with] since <sup>2</sup>[he interrupts people constantly.]  
Therefore, <sup>3</sup>[I do not want to serve on a committee with Charles.]



This diagram says that premise (2) is given as a support for (1), the subconclusion, and that (1) is given as a support for (3), the conclusion.

Sometimes two or more premises provide *independent* support for a single conclusion. In such a case, if one of the premises were removed, the support provided by the other(s) would not decrease. For instance:

55. Although <sup>1</sup>[Americans like to think they have interfered with other countries only to defend the downtrodden and helpless], <sup>2</sup>[there are undeniably aggressive episodes in American history.] For example, <sup>3</sup>[the United States took Texas from Mexico by force.] <sup>4</sup>[The United States seized Hawaii, Puerto Rico, and Guam.] And <sup>5</sup>[in the first third of the twentieth century, the United States intervened militarily in all of the following countries without being invited to do so: Cuba, Nicaragua, Guatemala, the Dominican Republic, Haiti, and Honduras.]

The diagram is as follows:



Note that statement (1) is omitted from the diagram because it is a discount. The diagram says that the three premises support the conclusion *independently*.

Sometimes two or more premises are *interdependent*. In such a case, the premises work together as a logical unit, so that if one is removed, the support of the others is decreased. Here's an example:

56. <sup>1</sup>[No physical object can travel faster than light.] <sup>2</sup>[A hydrogen atom is a physical object.] Hence, <sup>3</sup>[no hydrogen atom can travel faster than light.]

If two or more premises provide *interdependent* support for a single conclusion (or subconclusion), write their numbers in a horizontal row, joined by plus signs, and underline the row. The plus signs serve as an abbreviation for "in conjunction with." To illustrate, the diagram for argument (56) looks like this:



This diagram tells us that premises (1) and (2) provide *interdependent* support for conclusion (3).

Because English grammar is subtle and flexible, there are no hard-and-fast rules for bracket placement. But the main goal is to bracket the argument in a way that fully reveals the patterns of reasoning within it. The following rules of thumb will help you do this.

First, always take note of any premise and conclusion indicators. For instance, two statements joined by the premise indicator “because” need to be bracketed separately, since one is a premise and one is a conclusion (or subconclusion).

Second, recognize that statements joined by the words “and” or “but” often need to be separated into distinct units for the purpose of diagramming. For example, whenever the word “and” joins two premises, the diagram must indicate whether the premises operate independently or interdependently. Again, the overriding principle is to bracket the statements in such a way as to make an accurate picture of the logical structure of the argument. For instance:

57. <sup>1</sup>[The defendant is guilty.] After all, <sup>2</sup>[he confessed to stealing the jewels] and <sup>3</sup>[he was undoubtedly present at the scene of the crime] since <sup>4</sup>[his fingerprints are on the safe.]

The argument can be diagrammed as follows:



The diagram indicates that premises (2) and (3) support conclusion (1) *independently*. In addition, (4) supports (3) but not (2).

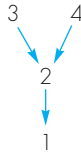
Third, note that conditionals (if-then statements) and disjunctions (either-or statements) should *never* be broken down into parts and joined with the plus sign. As noted previously, the plus sign is a special form of “and,” linking statements that operate in a logically *interdependent* fashion. Of course, “and” is very different from “if-then” or “either-or.” For example, take the statement “If I fall, then I will hurt myself.” This conditional statement obviously does *not* have the same meaning as “I fall, *and* I will hurt myself.” So, we must treat conditional statements as units for the purposes of diagramming. The same goes for disjunctions. The following words form compounds that should be treated as a single unit in diagramming arguments:

if . . . then	assuming that
only if	either . . . or
given that	neither . . . nor

Consider the following example:

58. <sup>1</sup>[If China attacks Taiwan, Taiwan will fight,] for <sup>2</sup>[the Taiwanese are ready to defend themselves.] <sup>3</sup>[Their air force is formidable.] <sup>4</sup>[And their navy is well trained and well equipped.]

Argument (58) can be diagrammed as follows:



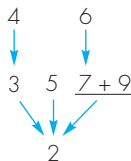
Note that conclusion (1) stands for an entire conditional statement.

When bracketing and numbering an argument, simply take the statements in the order in which they appear in the original, marking the first statement (1), the second (2), and so on. This will help ensure that your numbering system is similar to that of your classmates. All statements should be numbered even though some statements, such as discounts and repeated statements, may not appear in your diagram. This convention helps in two ways: It makes the process of bracketing and numbering relatively mechanical, and it ensures that your numbering system is like that of your classmates. (This, in turn, is a great aid to communication.) Finally, where rhetorical questions and commands serve as premises or conclusions, they, too, should be bracketed and numbered.

The complexity of an argument diagram mirrors the complexity of the original. Accordingly, argument diagrams can become rather complex. Here's an example:

59. Although <sup>1</sup>[some have argued that nuclear weapons introduce nothing genuinely new into the disputes about the morality of war,] I believe that <sup>2</sup>[nuclear weapons raise novel moral issues.] First, <sup>3</sup>[nuclear weapons have new and undreamed-of long-term effects] since <sup>4</sup>[the radioactive fallout pollutes the environment and alters human genes.] Second, <sup>5</sup>[a nuclear war could destroy human civilization in its entirety.] Third, <sup>6</sup>[in case of nuclear war, the dust caused by the explosions would prevent the sun's rays from reaching the earth's surface.] So, <sup>7</sup>[a nuclear war would result in a drastic lowering of the earth's temperature.] In other words, <sup>8</sup>[a nuclear war would result in a "nuclear winter."] And <sup>9</sup>[no human or human group has a right to gamble with the very climate upon which life itself is based.]

The argument can be diagrammed as follows:



A number of things are worthy of note in this diagram. First, statement (1) is omitted from the diagram because it is a discount. Second, statement (8) is omitted because it is a repetition of (7). Third, the conclusion is supported by three *independent* lines of reasoning:

- (4) supports (3), which, in turn, supports (2).
- (5) supports (2).
- (6) supports (7), and (7) operates in conjunction with (9) to support (2).

Each of these lines of reasoning is independent of the others because if we eliminate any one of them, the support of the others remains unaltered. Finally, statements (7) and (9) operate as an *interdependent* logical unit.

## EXERCISE 2.3

**PART A: Argument Diagrams** Make a photocopy of the following arguments. Then, on your photocopy, bracket and number the statements in the arguments, using the techniques outlined in the previous section. Finally, construct a diagram for each argument, placing it beside the argument on the photocopy.

- \* 1. Photography makes representational art obsolete because no one, not even the best artist, can be more accurate than a camera.
- 2. In spite of the fact that electrons are physical entities, they cannot be seen, for electrons are too small to deflect photons (i.e., light particles). Hence, electrons are invisible.
- 3. There is a healthy kind of individualism—the kind that is resistant to group tyranny. . . . But capitalist individualism is not concerned about promoting the growth of the person into emotional, intellectual, ethical and cultural fullness; rather, it fosters the development of individual traits only so far as these are useful for maximizing profits. Thus, ironically, capitalist individualism turns into a group despotism under which personal becoming is sacrificed to the external tyrannies of material gain. —Eugene C. Bianchi, “Capitalism and Christianity Are Contradictory,” in David L. Bender, ed., *American Values: Opposing Viewpoints* (San Diego: Greenhaven Press, 1989), p. 147
- \* 4. While there is much wickedness in the world, there is also much good. For if there is evil, then there must be good, since good and evil are relative, like big and small. And no one will deny that evil exists.
- 5. Since major historical events cannot be repeated, historians aren’t scientists. After all, the scientific method necessarily involves events (called “experiments”) that can be repeated.
- 6. The scientific method doesn’t necessarily involve experimentation. For if anything is a science, astronomy is. But the great cosmic events observed by

astronomers cannot be repeated. And, of course, an experiment is by definition a repeatable event.

7. Although people often say that beauty is in the eye of the beholder, there are various reasons for thinking that beauty is objective. First, there is wide agreement about natural beauty. After all, virtually everyone finds the Grand Canyon, Niagara Falls, and the Rocky Mountains beautiful. Second, even though art critics frequently disagree with one another, they do defend their views with principled reasoning. Third, art critics tend to agree among themselves about which historical works of art are truly great. And this agreement is no mere coincidence because the critics are not, in general, reluctant to disagree with one another.
8. In the new order, when voters are concerned about what benefits the elected officer will provide them, promises, hypocrisy, deceit, log-rolling and clout are fast becoming the characteristics of electability. As Harold Blake Walker noted, of 21 Congressmen linked in one way or another with political wrongdoing or personal scandal prior to the 1976 election, 19 were re-elected. —John A. Howard, “Democratic Values Are Being Lost to Self-Interest,” in David L. Bender, ed., *American Values: Opposing Viewpoints* (San Diego: Greenhaven Press, 1989), p. 57
- \* 9. Despite the fact that contraception is regarded as a blessing by most Americans, using contraceptives is immoral. For whatever is unnatural is immoral since God created and controls nature. And contraception is unnatural because it interferes with nature.
10. While some people seem to be under the impression that humans are making moral progress, I submit that the twentieth century is a movement backwards into violence and cruelty. For in spite of the fact that science and technology have developed rapidly, the greatest mass murders in history have all occurred in this century. Millions died on the battlefields of World Wars I and II. Six million Jews died in Nazi prison camps. And from 1917 until the end of Stalin’s reign, 20 million people died in Soviet work camps. More recently, we have Pol Pot’s slaughter of the Cambodians as well as the atrocities in the former Yugoslavia.
- \* 11. There is no life after death. For what’s real is what you can see, hear, or touch. And you cannot see, hear, or touch life after death. Furthermore, life after death is possible only if humans have souls. But the notion of a soul belongs to a prescientific and outmoded view of the world. And hence, the belief in souls belongs to the realm of superstition.
12. Politicians are forever attributing crime rates to *policies*—if the crime rates are decreasing, to their own “wise” policies; if the crime rates are increasing, to the “failed” policies of their opponents. But the fact is that crime rates are best explained in terms of demographics. For crime is primarily a young man’s game. Whenever there is a relatively large number of young men between the ages of 15 and 30, the crime rates are high. And whenever this part of the population is relatively small, the crime rates are relatively low.

13. A liberal arts education is vital to any great nation. Why? For one thing, a liberal arts education provides the best possible skills in communication. And without good communication at all levels, a nation cannot move forward. For another, work is not the whole of life. And it is well known that a liberal arts education increases one's capacity to enjoy life by substantially broadening the range of one's interests.
14. The human sciences have . . . made a major contribution to cynicism about human greatness, especially as they treat the subjects of motivation and freedom. We are told that human choice is not what it appears to be. If we accept the sophistications of some views of psychology, we know that what appears to be heroic—for example, a man or woman's act of courage in saving another's life—is, in fact, a desperate attempt to win the approval of a long-dead parent who had withheld love in the childhood years. What, then, has become of the hero? He or she is transformed in our minds into a neurotic, and with a slight turn of the mind, admiration is changed to pity and condescension. —Dick Keyes, "America Must Rediscover Heroism," in David L. Bender, ed., *American Values: Opposing Viewpoints* (San Diego: Greenhaven Press, 1989), p. 84
- \* 15. Violence as a way of achieving racial justice is both impractical and immoral. It is impractical because it is a descending spiral ending in destruction for all. The old law of an eye for an eye leaves everybody blind. It is immoral because it seeks to humiliate the opponent rather than win his understanding; it seeks to annihilate rather than to convert. Violence is immoral because it thrives on hatred rather than love. It destroys community and makes brotherhood impossible. —Martin Luther King, Jr., *The Words of Martin Luther King, Jr.*, selected and introduced by Coretta Scott King (New York: Newmarket Press, 1983), p. 73

**PART B: More Argument Diagrams** Make a photocopy of the following paragraphs. Then determine which of the paragraphs are arguments and which are not. If a paragraph is not an argument, write "not an argument" beside the paragraph. If a paragraph is an argument, bracket and number the statements involved on your photocopy; then, beside the argument, construct a diagram.

- \* 1. John and Robert Kennedy and Martin Luther King were, like them or not, this country's last true national leaders. None of John Kennedy's successors in the White House has enjoyed the consensus he built, and every one of them ran into trouble, of his own making, while in office. In the same way, none of this country's national spokespeople since Robert Kennedy and Dr. King has had the attention and respect they enjoyed. —Warren Bennis, *Why Leaders Can't Lead* (San Francisco: Jossey-Bass, 1989), p. 61
2. If . . . our government is to function, it must have dissent. Only totalitarian governments insist upon conformity, and they—as we know—do so at their peril. Without criticism abuses will go unrebuked; without dissent our



dynamic system will become static. —Henry Steele Commager, “True Patriotism Demands Dissent,” in David L. Bender, ed., *American Values: Opposing Viewpoints* (San Diego: Greenhaven Press, 1989), p. 248

3. It is because of the ideal of freedom that we have organized our particular form of democracy, since the political structure of any society is . . . formed to support the demands which the people make for the attainment of certain values. Because of . . . the variety and richness of the social and natural resources with which the country has abounded, in order to realize the full potential which has always existed here, we have needed the idea of freedom as a social instrument to be used for our full development. —Harold Taylor, *Art and the Intellect* (New York: The Museum of Modern Art, 1960), p. 53
- \* 4. For a variety of reasons, private colleges are in trouble. First, private colleges have repeatedly increased tuition well beyond the rate of inflation. And any business that increases prices in such a fashion is likely to run into trouble. Second, many people are beginning to question the value of higher education since a college degree no longer guarantees an attractive salary. Third, rightly or wrongly, the American public believes that colleges have not practiced good financial management, and hence the public thinks that tuition dollars often subsidize inefficiency.
5. From 1979 through 1994, attacks by dogs resulted in 279 deaths of humans in the United States. Such attacks have prompted widespread review of existing local and state dangerous-dog laws, including proposals for adoption of breed-specific restrictions to prevent such episodes. —*The Journal of the American Medical Association*, 278(4) (1997): 278
6. The legalization of drugs is neither unwise nor immoral. It is not unwise because by legalizing drugs we would eliminate the illegal drug trade. Hence, by legalizing drugs, we would rid our nation of all the violence that goes along with the illegal drug trade. Furthermore, the legalization of drugs is not immoral because it can be combined with a massive program of moral education.
7. During the 1930s, there were 1667 executions in the United States. During the 1940s, there were 1284. During the 1950s, there were 717. And during the rehabilitation-mad 1960s, the numbers plummeted to 191. Then came the *Furman v. Georgia* decision in 1972, which resulted in a grand total of 3 executions during the 1970s. While the numbers began to creep back up in the 1980s, with a total of 117 executions in that decade, we are forced to conclude that America has not had a serious practice of capital punishment since about 1960. Therefore, it is not true that America’s currently high murder rate proves the ineffectiveness of the death penalty.
8. It is difficult, and you may be sure that we know it, for us to oppose your power and fortune, unless the terms be equal. Nevertheless we trust that the gods will give us fortune as good as yours, because we are standing for what is right against what is wrong; and as for what we lack in power, we trust that it will be made up for by our alliance with the Spartans. . . . Our confidence,

therefore, is not so entirely irrational as you think. —The Melians to the Athenians, in Thucydides, *The Peloponnesian War*, trans. Rex Warner (New York: Penguin Books, 1954), p. 404 (The Athenians had demanded that the Melians surrender, but the Melians refused.)

9. Two distinct lines of reasoning support the thesis that the physical universe is temporally finite. First, the galaxies are speeding away from each other *and* from a central point. Moreover, there isn't enough matter in the universe to reverse this process. And if we trace this process back, it appears that the universe began with a "bang" roughly 15 billion years ago. Second, if the universe is temporally infinite, it must have gone through an infinite number of cycles (each Big Bang followed by a Big Crunch). But according to physicists, each Big Bang/Big Crunch cycle would cause a decrease in the overall amount of available energy. Thus, if the universe were temporally infinite, there would now be no energy available at all. But obviously, lots of energy is still available.
- \*10. While colleges and universities have come under heavy criticism in the last decade, they will undoubtedly remain a vital force in American social life for generations to come. For one thing, although both the public and the media seem to have a thirst for stories about people who've gotten rich or famous with only a high-school degree, the fact remains that a college or university degree is the surest way to increase one's social and occupational status. For another, college grads as a group indicate higher levels of satisfaction with their lives than do those with lesser educational attainments. Finally, you show me a nation with a weak system of higher education, and I'll show you a nation with little power. And Americans will never willingly accept a position of relative powerlessness among the nations of the world.
11. As I crisscross the United States lecturing on college campuses, I am dismayed to find that professors and administrators, when pressed for a candid opinion, estimate that no more than 25 percent of their students are turned on by classwork. For the rest, college is at best a social center or aging vat, and at worst a young folks' home or a prison that keeps them out of the mainstream of economic life for a few more years. —Caroline Bird, "College Is a Waste of Time and Money," in Stephen R. C. Hicks and David Kelley, eds., *The Art of Reasoning* (New York: Norton, 1994), p. 200
- \*12. There are no easy answers, no quick fixes, no formulas. It's time to face facts, lest we all follow Boesky, North, Hart, and the Bakkers into the abyss. We are not supermen. We cannot remake the world to suit us. It's not some mere trick of fate that the high and the mighty are tumbling off their pedestals in record numbers. It is rather the inevitable result of ambition outstripping competence and conscience. Whatever the question, competence and conscience are part of the answer. . . . —Warren Bennis, *Why Leaders Can't Lead* (San Francisco: Jossey-Bass, 1989), p. 154

13. Although the great majority of homicides in the United States involve assailants of the same race or ethnic group, current evidence suggests that socioeconomic status plays a much greater role in explaining racial and ethnic differences in the rate of homicide than any intrinsic tendency toward violence. For example, Centerwall has shown that when household crowding is taken into account, the rate of domestic homicide among blacks in Atlanta, Georgia, is no higher than that of whites living in similar conditions. Likewise, a recent study of childhood homicide in Ohio found that once cases were stratified by socioeconomic status, there was little difference in race-specific rates of homicide involving children 5 to 14 years of age. —John Henry Sloan et al., “Handgun Regulations, Crime, Assaults, and Homicide: A Tale of Two Cities,” in Stephen R. C. Hicks and David Kelley, eds., *The Art of Reasoning* (New York: Norton, 1994), p. 305
- \*14. The only proof capable of being given that an object is visible is that people actually see it. The only proof that a sound is audible is that people hear it; and so of the other sources of our experience. In like manner, I apprehend, the sole evidence it is possible to produce that anything is desirable is that people do actually desire it. [Thus,] no reason can be given why the general happiness is desirable, except that each person . . . desires his own happiness. —J. S. Mill, *Utilitarianism* (New York: Bobbs-Merrill, 1957), pp. 44–45
15. There is an undoubted psychological easing of standards of truthfulness toward those believed to be liars. It is simply a fact, for instance, that one behaves differently toward a trusted associate and toward a devious, aggressive salesman. But this easing of standards merely explains the difference in behavior; it does not by itself justify lies to those one takes to be less than honest. Some of the harm the liar may have done by lying may be repaid by the harm a lie can do to him in return. But the risks to others, to general trust, and to those who lie to liars in retaliation merely accumulate and spread thereby. Only if there are separate, and more compelling, excuses, can lying to liars be justified. —Sissela Bok, *Lying: Moral Choice in Public and Private Life* (New York: Random House, 1978), p. 134

## NOTES

1. Alan Thein Durning, “World Spending on Ads Skyrockets,” in Lester Brown, Hal Kane, and Ed Ayres, eds., *Vital Signs 1993: The Trends That Are Shaping Our Future* (New York: Norton, 1993), p. 80.
2. Stephen Jay Gould, “Sex, Drugs, Disasters, and the Dinosaurs,” in Stephen R. C. Hicks and David Kelley, eds., *The Art of Reasoning: Readings for Logical Analysis* (New York: Norton, 1994), p. 145.
3. This argument is a summary of some of the main ideas in Gould, “Sex, Drugs, Disasters, and Dinosaurs,” pp. 144–152.

4. Some philosophers, such as the emotivists, have denied that “ought” judgments are either true or false. But we are here speaking from the standpoint of common sense. For a classic statement of the emotivist position, see Alfred Jules Ayer, *Language, Truth and Logic* (New York: Dover, 1952), pp. 102–120. This work was first published in 1935.
5. This example is borrowed from Anthony Weston, *A Rulebook for Arguments* (Indianapolis, IN: Hackett, 1987), p. 8. Our well-crafted version of this argument also is borrowed from Weston.