

wish to assign Chapters I–VI early in the term and Chapters VII–IX at essay-writing time.

Chapter X concerns fallacies, *mistakes* in arguments. It summarizes the general mistakes discussed in the rest of this book, and ends with a directory of the many mistakes in reasoning which are so tempting and common that they even have their own names. The Appendix offers some rules for constructing and evaluating definitions.

I

Composing a Short Argument

Some General Rules

Chapter I offers some general rules for composing short arguments. Chapters II through VI discuss specific *kinds* of short arguments.

(1) *Distinguish premises and conclusion*

The first step in making an argument is to ask: what are you trying to prove? What is your conclusion? Remember that the conclusion is the statement *for* which you are giving reasons. The statements which give your reasons are called “premises.”

Consider this quip of Winston Churchill's:

Be an optimist. There is not much use being anything else.

This is an argument because Churchill is giving a *reason* to be an optimist: his premise is that "there is not much use being anything else."

Churchill's premise and conclusion are obvious enough, but the conclusions of some arguments may not be obvious until they are pointed out. Sherlock Holmes has to explain one of his key conclusions in "The Adventure of Silver Blaze":

A dog was kept in the stalls, and yet, though someone had been in and fetched out a horse, the dog had not barked . . . Obviously the visitor was someone whom the dog knew well . . .

Holmes has two premises. One is explicit: the dog did not bark at the visitor. The other is a general fact about dogs which he assumes we know: dogs bark at strangers. Together these premises imply that the visitor was not a stranger.

When you are using arguments as a means of *inquiry*, as described in the Introduction, you may sometimes start with no more than the conclusion you wish to defend. State it clearly, first of all. If you want to take Churchill at his word and argue that we should indeed be optimists, say so explicitly. Then ask yourself what reasons you have for drawing that conclusion. What reasons can you give to prove that we should be optimists?

You *could* appeal to Churchill's authority: if Churchill says we should be optimists, who are you and I to quibble? This appeal will not get you very far, however, since probably an equal number of famous people have recommended pessimism. You need to think about it on

your own. Again: what is *your* reason for thinking that we should be optimists?

Maybe your idea is that being an optimist gives you more energy to work for success, whereas pessimists feel defeated in advance, and therefore never even try. Thus you have one main premise: optimists are more likely to succeed, to achieve their goals. (Maybe this is what Churchill meant as well.) If this is your premise, say so explicitly.

Once you have finished this book, you will have a convenient list of many of the different forms that arguments can take. Use them to develop your premises. To defend a generalization, for instance, check Chapter II; it will remind you that you need to give a series of examples as premises, and it will tell you what sorts of examples to look for. If your conclusion requires a "deductive" argument like those explained in Chapter VI, the rules discussed in that chapter will tell you what premises you need. You may have to try several different arguments before you find one which works well.

(2) *Present your ideas in a natural order*

Short arguments are usually written in one or two paragraphs. Put the conclusion first, followed by your reasons, or set out your premises first and draw the conclusion at the end. In any case, set out your ideas in an order that unfolds your line of thought most naturally for the reader. Consider this short argument by Bertrand Russell:

The evils of the world are due to moral defects quite as much as to lack of intelligence. But the human race has not hitherto discovered any method of eradicating moral defects . . . Intelligence, on the contrary, is easily improved by methods known to every competent educator. Therefore,

until some method of teaching virtue has been discovered, progress will have to be sought by improvement of intelligence rather than of morals.*

Each claim in this passage leads naturally to the next. Russell begins by pointing out the two sources of evil in the world: "moral defects," as he puts it, and lack of intelligence. He then claims that we do not know how to correct "moral defects," but that we do know how to correct lack of intelligence. Therefore—notice that the word "therefore" clearly marks his conclusion—progress will have to come by improving intelligence.

Each sentence in this argument is in just the right place. Plenty of wrong places were available. Suppose that Russell instead wrote it like this:

The evils of the world are due to moral defects quite as much as lack of intelligence. Until some method of teaching virtue has been discovered, progress will have to be sought by improvement of intelligence rather than of morals. Intelligence is easily improved by methods known to every competent educator. But the human race has not hitherto discovered any means of eradicating moral defects.

These are exactly the same premises and conclusion, but they are in a different order, and the word "therefore" has been omitted before the conclusion. Now the argument is *much* harder to understand: the premises do not fit together naturally, and you have to read the passage twice just to figure out what the conclusion is. Don't count on your readers to be so patient.

Expect to rearrange your argument several times to find the most natural order. The rules discussed in this book should help: you can use them not only to tell

**Skeptical Essays* (London: Allen and Unwin, 1977), p. 127.

what premises you need, but also how to arrange your premises in the most natural order.

(3) Start from reliable premises

No matter how well you argue *from* premises to conclusion, your conclusion will be weak if your premises are weak.

Nobody in the world today is really happy. Therefore, it seems that human beings are just not made for happiness. Why should we expect what we can never find?

The premise of this argument is the statement that nobody in the world today is really happy. Ask yourself if this premise is plausible. Is *nobody* in the world today really happy? At the very least this premise needs some defense, and very likely it is just not true. This argument cannot show, then, that human beings are not made for happiness, or that we should not expect to be happy.

Sometimes it is easy to start from reliable premises. You may have well-known examples at hand, or informed authorities who are clearly in agreement. Other times it is harder. If you are not sure about the reliability of a premise, you may need to do some research, and/or give a short argument for the premise itself. (We will return to this theme in later chapters, especially in section A2 of Chapter VII.) If you find that you *cannot* argue adequately for your premise(s), then, of course, you need to give up entirely and start elsewhere!

(4) Use definite, specific, concrete language

Write concretely: avoid abstract, vague, general terms. "We hiked for hours in the sun" is a hundred times bet-

ter than "It was an extended period of laborious exertion."

NO:

For those whose roles primarily involved the performance of services, as distinguished from assumption of leadership responsibilities, the main pattern seems to have been a response to the leadership's invoking obligations that were concomitants of the status of membership in the social community and various of its segmental units. The closest modern analogy is the military service performed by an ordinary citizen, except that the leader of the Egyptian bureaucracy did not need a special emergency to invoke legitimate obligations.*

YES:

In ancient Egypt the common people were liable to be conscripted for work.

(5) *Avoid loaded language*

Do not make your argument look good by caricaturing the opposing side. Generally people advocate a position for serious and sincere reasons. Try to figure out their view, even if you think they are dead wrong. A person who opposes the use of a new technology is not necessarily in favor of "going back to the caves," for example, and a person who advocates reduced military spending

*This passage is from Talcott Parsons, *Societies: Evolutionary and Comparative Perspectives* (Englewood Cliffs, NJ: Prentice-Hall, 1966), p. 56. I owe the quotation and the rewritten version which follows to Stanislas Andreski, *Social Sciences as Sorcery* (New York: St Martin's Press, 1972), Chapter 6.

is not necessarily in favor of "giving in to aggression." If you can't imagine how anyone could hold the view you are attacking, you just don't understand it yet.

In general, avoid language whose *only* function is to sway the emotions of your readers or hearers, either for or against the view you are discussing. This is "loaded" language.

Electoral sabotage played an important role in the secret war in Brazil. The CIA invested some \$20 million to finance conservatives in the . . . Brazilian election. The money was used to buy candidates in eight of eleven gubernatorial elections . . . *

Here the summary term "war" is itself loaded: military involvement is not alleged. "Sabotage" and "buy" are also inappropriate. An election might be truly "sabotaged" if ballot boxes throughout the country were stuffed, and an official might be "bought" if he or she were paid to vote as directed. In this excerpt, however, the CIA is accused only of giving money to conservative candidates in the election. It is not clear that anyone is "bought" merely by covert campaign contributions—especially if he or she is already committed to the point of view the CIA favors. Thus the opening sentence should read:

The CIA tried to influence the Brazilian election by giving money to conservative candidates.

The neutralized statement does not excuse the CIA's involvement. On the contrary, it now should be taken all the more seriously. Loaded language preaches only to

*"The Secret War in Brazil," *The Progressive*, August 1977.

the converted, but careful presentation of the facts can itself convert.

(6) *Use consistent terms*

Stick to a single set of terms for each idea. If you want to argue that Senator Gunderson's views are liberal, then use the word "liberal" in your premises, not (or not just) words like "left-leaning" or "in the New Deal tradition."

Consistent terms are especially important when your argument depends on the connections between the premises.

NO:

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.

YES:

If you study other cultures, then you realize what a variety of human customs there is. If you realize what a variety of human customs there is, then you question your own customs. If you question your own customs, then you become more tolerant. Therefore, if you study other cultures, then you become more tolerant.

In both versions, each of the sentences has the form "If X, then Y." In the second version, though, the "Y" of

the first premise is exactly the "X" of the second, the "Y" of the second is exactly the "X" of the third, and so on. (Go back and look.) This is why the second argument is easy to read and to understand: it forms a kind of chain. In the first version, the "Y" of the first premise is only roughly the "X" of the second, the "Y" of the second premise only roughly the "X" of the third, and so on. Here each "X" and "Y" is written as if the author had consulted a thesaurus at every opportunity. "More tolerant" in the third premise, for instance, is written as "more likely to accept other people and practices without criticism" in the conclusion. As a result, the tight *connection* between the individual premises, and between the premises and the conclusion, is lost. The writer shows off, but the reader—who is not privileged to know the structure of the argument from the start—is left to flounder.

(7) *Stick to one meaning for each term*

The opposite temptation is to use a single word in more than one sense. This is the classical fallacy of "equivocation."

Women and men are physically and emotionally different. The sexes are *not* "equal," then, and therefore the law should not pretend that we are!

This argument may seem plausible at first glance, but it plays on two different senses of "equal." It is true that the sexes are not physically and emotionally "equal," in the sense in which "equal" means simply "identical." "Equality" before the *law*, however, does not mean "physically and emotionally identical," but rather "enti-

itled to the same rights and opportunities." Rephrased, then, with the two different senses of "equal" made clear, the argument goes:

Women and men are not physically and emotionally identical. Therefore, women and men are not entitled to the same rights and opportunities.

This version of the argument no longer equivocates on "equal," but it is still not a good argument; it is only the original inadequate argument with the inadequacy no longer hidden. Once the equivocation is removed, it becomes clear that the conclusion of the argument is neither supported by nor even related to the premise. No reason is offered to show that physical and emotional differences should have anything to do with rights and opportunities.

Sometimes we are tempted to equivocate by making a key word *vague*. Consider the following conversation:

A: Everyone is really just selfish!

B: But what about John: look how he devotes himself to his children!

A: He is only doing what he really wants to do: that's still selfish!

Here the meaning of "selfish" changes from A's first claim to A's second. In the first claim, we understand "selfish" to mean something fairly specific: the grasping, self-centered behavior we ordinarily call "selfish." In A's response to B's objection, A expands the meaning of "selfish" to include apparently unselfish behavior too, by broadening the definition to just "doing what you really want to do." A saves only the *word*; it has lost its original, specific meaning.

A good way to avoid equivocation is to carefully *define* any key terms when you introduce them: then be sure to use them only as you've defined them! You may also need to define special terms or technical words. See the Appendix for a discussion of the process and pitfalls of definition.

Deductive Arguments

The arguments we have considered so far are all uncertain in one way or another. New examples might always refute an argument from example, and even an informed and impartial source might be wrong. Properly formed *deductive arguments*, however, are arguments the truth of whose premises guarantees the truth of their conclusions.

If there are no chance factors in chess, then chess is a game of pure skill.

There are no chance factors in chess.

Therefore, chess is a game of pure skill.

If these two premises are true, then it *must* also be true that chess is a game of pure skill. To disagree with the conclusion, you'd also have to disagree with at least one of the premises.

Deductive arguments offer certainty, then—but only if their *premises* are also certain. Since the premises of our arguments in fact are seldom certain, the conclusions of real-life deductive arguments still have to be taken with a few (sometimes many!) grains of salt. Still, when strong premises can be found, deductive forms are very

useful. Remember rule 3: try to start with reliable premises.

Even when the premises are uncertain, deductive forms offer an effective way of *organizing* an argument, especially an argumentative essay. This chapter presents six common deductive forms with simple examples, each in a section of its own. Chapters VII–IX will return to their use in argumentative essays.

(24) *Modus Ponens*

Properly formed deductive arguments are called *valid* arguments. Using the letters **p** and **q** to stand for sentences, the simplest valid deductive form is:

If [sentence **p**] then [sentence **q**].

[Sentence **p**].

Therefore, [sentence **q**].

Or, more briefly:

If **p** then **q**.

p.

Therefore, **q**.

This form is called “modus ponens” (“the mode of putting”: put **p**, get **q**). Taking **p** to stand for “There are no chance factors in chess” and **q** to stand for “Chess is a game of pure skill,” our introductory example follows modus ponens. Check it out.

Often an argument in this form is so obvious that it does not need to be stated as an official modus ponens at all.

Since optimists are more likely to succeed than pessimists, you should be an optimist.

This argument could be written:

If optimists are more likely to succeed than pessimists, then you should be an optimist.

Optimists *are* more likely to succeed than pessimists.

Therefore, you should be an optimist.

but the argument is perfectly clear without putting it in this form. At other times, however, writing out the modus ponens is useful:

If there are millions of habitable planets in our galaxy, then it seems likely that life has evolved on more than just this one.

There *are* millions of habitable planets in our galaxy.

Therefore, it seems likely that life has evolved on more than just this one.

To develop this argument you must explain and defend both of its premises, and they require quite different arguments (why?). It is useful to state them clearly and separately from the start.

(25) *Modus Tollens*

A second valid form is "modus tollens" ("the mode of taking": take *q*, take *p*):

If *p* then *q*.

Not-*q*.

Therefore, not-*p*.

Here "Not-*q*" simply stands for the denial of *q*, i.e., for the sentence "It is not true that *q*"; similarly for "not-*p*."

Remember Sherlock Holmes's argument, which we discussed in section 1:

A dog was kept in the stalls, and yet, though someone had been in and fetched out a horse, he had not barked . . . Obviously the visitor was someone whom the dog knew well . . .

Holmes's argument is a modus tollens:

If the dog did not know the visitor well, then the dog would have barked.

The dog did not bark.

Therefore, the dog knew the visitor well.

To write this argument in symbols, use *k* for "The dog did not know the visitor well" and *b* for "The dog barked."

If *k* then *b*.

Not-*b*.

Therefore, not-*k*.

"Not-*b*" stands for "The dog did not bark," and "not-*k*" stands for "It is not true that the dog did not know the visitor well," i.e., "The dog *did* know the visitor well."*

*We might instead have defined *k* as "The dog did know the visitor well," so that in symbols the argument goes:

Astronomer Fred Hoyle wields an interesting *modus tollens*. To paraphrase a bit:

If the universe were infinitely old, there would be no hydrogen left in it, since hydrogen is steadily converted into helium throughout the universe, and this conversion is a one-way process. But in fact the universe consists almost entirely of hydrogen. Thus the universe must have had a definite beginning.

To put Hoyle's argument in symbols, use *i* to stand for "The universe is infinitely old" and *h* to stand for "No hydrogen is left in the universe."

If *i* then *h*.

Not-*h*.

Therefore, not-*i*.

"Not-*h*" stands for "It is not true that there is no hydrogen left in the universe" (or: "The universe does contain hydrogen"); "not-*i*" means "It is not true that the universe is infinitely old." Hoyle goes on to rephrase the conclusion: because the universe is not infinitely old, there must have been a definite point at which it began.

If not-*k* then *b*.

Not-*b*.

Therefore, *k*.

Strictly speaking, the conclusion then is "Not-not-*k*"—"It is not true that it is not true that the dog knew the visitor well"—but this is equivalent simply to *k*.

(26) *Hypothetical Syllogism*

A third valid form is "hypothetical syllogism":

If *p* then *q*.

If *q* then *r*.

Therefore, if *p* then *r*.

For instance:

If you study other cultures, then you realize what a variety of human customs there is.

If you realize what a variety of human customs there is, then you question your own customs.

Therefore, if you study other cultures, then you question your own customs.

Using the letters in boldface to stand for the component sentences in this statement, we have:

If *s* then *r*.

If *r* then *q*.

Therefore, if *s* then *q*.

Hypothetical syllogism is valid for any number of premises as long as each premise has the form "If *p* then *q*" and the *q* of one premise becomes the *p* of the next. In section 5, for example, we considered an argument with the two premises above but also a third:

If you question your own customs, then you become more tolerant.

From this and the two premises above, you can validly conclude "If *s* then *t*" by hypothetical syllogism.

Notice that hypothetical syllogism offers a good model for explaining the connections between cause and effect (rule 18). The conclusion links a cause and an effect, while the premises explain the stages in between.

(27) Disjunctive Syllogism

A fourth valid form is "disjunctive syllogism":

p or *q*.

Not-*p*.

Therefore, *q*.

Consider, for instance, Bertrand Russell's argument discussed in section 2:

Either we hope for progress through improving morals, or we hope for progress through improving intelligence.

We can't hope for progress through improving morals.

Therefore, we must hope for progress through improving intelligence.

Again using the boldface letters as symbols, this argument goes:

m or *i*.

Not-*m*.

Therefore, *i*.

In English the word "or" can have two different meanings. In its "exclusive" sense, the word "or" in the sentence "*a* or *b*" means that either *a* or *b* is true, but not both. In its "inclusive" sense "*a* or *b*" means that either *a* or *b* is true, and possibly both. Disjunctive syllogisms are valid regardless of which sense of "or" is used. In the *exclusive* sense of "or," one can also argue:

p or *q*.

p.

Therefore, not-*q*.

Again, this form is *only* valid in the exclusive sense of "or." Suppose, for example, that someone argues:

Only Zbignew or Zoltan could have done the dreadful

deed. Zoltan did it; therefore Zbignew did not.

Zbignew's innocence depends on what the word "or" means in the first sentence. If the dreadful deed was something that only one person could have done, then the "or" is exclusive and the argument is valid. If the dreadful deed could have been a joint production, however, then the "or" remains inclusive, and Zoltan's guilt does not prove Zbignew's innocence.

(28) Dilemma

A fifth valid form is the "dilemma."

p or *q*.

If *p* then *r*.

If *q* then *s*.

Therefore, *r* or *s*.

Here is an example from Edmund Burke:

There is a dilemma to which every opposition to successful iniquity must, in the nature of things, be liable. If you lie still, you are considered an accomplice to the measures to which you silently acquiesce. If you resist, you are accused of provoking irritable power to new excesses. The conduct of a losing party never appears right . . .

Let us translate the argument into somewhat clearer and more consistent terms as we also translate it into dilemma form. Use *r* to stand for "You resist successful iniquity"; *a* for "You are considered an accomplice"; and *p* for "You are accused of causing new provocations." In symbols, then, the argument could be put:

r or not-*r*.

If *r* then *p*.

If not-*r* then *a*.

Therefore, *p* or *a*.

Notice that we did not need a separate symbol for the sentence "You lie still": we translated it as "not-*r*." Notice also that the premises are somewhat rearranged, and the first premise made more explicit, to fit the dilemma form.

Burke concludes that "the conduct of a losing party never appears right." In a way this is only a restatement of the conclusion we have put as "*p* or *a*." We could also make it more explicit by spelling out another argument in dilemma form, beginning with the conclusion of the last one:

Either you are accused of causing new Provocations or you are considered an Accomplice.

If you are accused of causing new Provocations, your conduct appears Wrong.

If you are considered an Accomplice, your conduct appears Wrong.

Therefore, your conduct always appears Wrong.

In symbols:

Either *p* or *a*.

If *p* then *w*.

If *a* then *w*.

Therefore, *w*.

Technically the conclusion is "*w* or *w*," but we don't really need to say it twice.

(29) *Reductio ad Absurdum*

One traditional deductive strategy deserves special mention even though, strictly speaking, it is only a version of *modus tollens*. This is the "reductio ad absurdum," i.e., a "reduction to absurdity."

To prove: *p*.

Assume: Not-*p* (that is, that *p* is false).

From the assumption derive an implication: *q*.

Show: *q* is false (contradictory, silly, "absurd").

Conclude: *p*.

Arguments by "reductio," as these arguments are often called, thus establish their conclusions by showing that the denial of the conclusion leads to absurdity. There is nothing left to do, the argument suggests, but to accept the conclusion.

Remember, for example, the argument for the existence of a Creator which we discussed in section 12. Houses have creators, the argument goes, and the world is *like* a house—it too is ordered and beautiful. Thus, the analogy suggests, the world must have a Creator too. Section 12 quoted David Hume to the effect that the world is not relevantly enough similar to a house for this analogy to succeed. In Part V of his *Dialogues* Hume also suggests a *reductio ad absurdum* of the analogy. Paraphrasing:

Suppose that the world has a Creator like a house does. Now when houses are not perfect, we know who to blame: the carpenters and masons who created them. But the world is also not wholly perfect. Therefore, it would seem to follow that the Creator of the world, God, is not perfect either. But you would consider this conclusion absurd. The only way to avoid the absurdity, however, is to reject the supposition that leads to it. Therefore, the world does not have a Creator in the way that a house does.

Spelled out in “*reductio*” form, we have:

To prove: The world does not have a Creator in the way that a house does.

Assume: The world does have a Creator in the way a house does.

From the assumption it follows that: God is imperfect (because the world is imperfect).

But: God cannot be imperfect.

Therefore: The world does not have a Creator in the way a house does.*

*For practice, translate this argument as a *modus tollens*.

Not everyone would find the idea of an imperfect God “absurd,” of course, but Hume knew that the Christians with whom he was arguing would not accept it.

(30) *Deductive arguments in several steps*

Many valid forms are *combinations* of the simple forms introduced in sections 24–29. Here, for example, is Sherlock Holmes performing a simple deduction for Doctor Watson’s edification, meanwhile commenting on the relative roles of observation and deduction. Holmes has casually remarked that Watson has been to a certain Post Office that morning, and furthermore that he sent off a telegram while there. “Right!” replies Watson, amazed, “right on both points! But I confess that I don’t see how you arrived at it.” Holmes:

“It is simplicity itself . . . Observation tells me that you have a little reddish mold adhering to your insiep. Just opposite the Wigmore Street Post Office they have taken up the pavement and thrown up some earth, which lies in such a way that it is difficult to avoid treading in it in entering. The earth is of this peculiar reddish tint which is found, as far as I know, nowhere else in the neighborhood. So much is observation. The rest is deduction.”

[Watson]: “How, then, did you deduce the telegram?”

[Holmes]: “Why, of course I knew that you had not written a letter, since I sat opposite you all morning. I see also in your open desk there that you have a sheet of stamps and a thick bundle of postcards. What could you go to the Post Office for, then, but to send a wire? Eliminate all the other factors, and the one which remains must be the truth.”*

Putting Holmes’s deduction into more explicit premises, we might have:

*A. Conan Doyle, *The Sign of the Four*, Chapter I.

1. Watson has a little reddish mold on his boots.
2. If Watson has a little reddish mold on his boots, then he has been to the Wigmore Street Post Office this morning (because there and only there is reddish dirt of that sort thrown up, and in a way difficult to avoid stepping in).
3. If Watson has been to the Wigmore Street Post Office this morning, he either mailed a letter, bought stamps or cards, or sent a wire.
4. If Watson had gone to the Post Office to mail a letter, he would have written the letter this morning.
5. Watson wrote no letter this morning.
6. If Watson had gone to the Post Office to buy stamps or cards, he would not already have a drawer full of stamps and cards.
7. Watson already has a drawer full of stamps and cards.
8. Therefore, Watson sent a wire at the Wigmore Street Post Office this morning.

We now need to break the argument down into a series of valid arguments in the simple forms presented in sections 24–29. We might start with a hypothetical syllogism:

2. If Watson has a little reddish mold on his boots, then he has been to the Wigmore Street Post Office this morning.
3. If Watson has been to the Wigmore Street Post Office this morning, he either mailed a letter, bought stamps or cards, or sent a wire.
- A. Therefore, if Watson has a little reddish mold on his boots, he either mailed a letter, bought stamps or cards, or sent a wire at the Wigmore Street Post Office this morning.

(I will use “A,” “B,” etc. to stand for the conclusions of simple arguments, which can then be used as premises to draw further conclusions.) Now with A and I we can use *modus ponens*:

- A. If Watson has a little reddish mold on his boots, he either mailed a letter, bought stamps or cards, or sent a wire at the Wigmore Street Post Office this morning.
1. Watson has a little reddish mold on his boots.
- B. Therefore, Watson either mailed a letter, bought stamps or cards, or sent a wire at the Wigmore Street Post Office this morning.

Two of these three possibilities can now be ruled out, both by *modus tollens*.

4. If Watson had gone to the Post Office to mail a letter, he would have written the letter this morning.
5. Watson wrote no letter this morning.
- C. Therefore, Watson did not go to the Post Office to mail a letter.

and:

6. If Watson had gone to the Post Office to buy stamps or cards, he would not already have a drawer full of stamps and cards.
7. Watson already has a drawer full of stamps and cards.
- D. Therefore, Watson did not go to the Post Office to buy stamps or cards.

Finally, then:

- B. Watson either mailed a letter, bought stamps or cards, or sent a wire at the Wigmore Street Post Office this morning.
- C. Watson did not go to the Post Office to mail a letter.
- D. Watson did not go to the Post Office to buy stamps or cards.
8. Therefore, Watson sent a wire at the Wigmore Street Post Office this morning.

This last inference is an extended disjunctive syllogism. “Eliminate all the other factors, and the one which remains must be the truth.”

Composing an Argumentative Essay

A. Exploring the Issue

We now move from writing short arguments to writing longer ones: from arguments in paragraphs to arguments in essays. An argumentative essay is often an elaboration of a short argument, or a series of short arguments held together by a larger design. But the process of thinking and “designing” an argumentative essay makes it much different from a short argument.

The next three chapters correspond to the three stages of writing an argumentative essay. Chapter VII is about *Exploring the Issue*, Chapter VIII sets out the *Main Points of the Argumentative Essay*, and Chapter IX is about actually *Writing the Essay*. The rules in these chapters are prefixed by an A, B, or C.

The Introduction distinguished two main uses of arguments: to *inquire* into the merits of a position, and to *defend* a position once your inquiry has led to fruits. The first step is inquiry. Before you can write an argumentative essay you must explore the issue and think through the various positions for yourself.

(A1) Explore the arguments on all sides of the issue

Some people have recently proposed a “voucher plan” for elementary and secondary schools. Under this plan, the tax money that currently goes to the public school system would be divided equally among children’s parents in the form of “vouchers” which they could transfer to the school of their choice, including private and parochial schools. The government would regulate competing schools to make sure that they all met minimal standards, but people would be free to choose whatever school they wished as long as it met those standards.

Suppose you are assigned the voucher plan as a topic for an argumentative essay. Do *not* begin by pulling up the typewriter and writing out some argument for the opinion that first occurs to you. You are not being asked for the opinion that first occurs to you. You are being asked to arrive at a well-informed opinion which can be defended with solid arguments. It takes some time.

First, find out what each side considers the strongest arguments for its position. Read articles or talk to people with different viewpoints.

The strongest argument for the pro-voucher side is probably “freedom of choice.” The voucher plan, it is claimed, would lead to a much wider range of alternative schools than now exist, and it would not penalize parents for choosing one of them over another (as the present system does, since everyone must pay taxes to sup-

port the public schools even if their children do not attend). The main argument *against* vouchers seems to be that the public schools mirror the real world: we have to learn to live with and appreciate people who are *not* like us and with whom we might *not* choose to go to school if we had the choice. Public schools, it is claimed, make democratic citizens.

As you examine the issue you will find arguments for and against these claims. You will also begin to formulate arguments of your own. Assess these arguments using the rules in Chapters I–VI. Try out different argument forms, make as good an argument as you can for each side, and then criticize these arguments using our rules.

Consider arguments by *analogy*. Have we tried anything *like* the voucher system before? Perhaps: competing colleges and universities, though not paid for by vouchers, seem to offer a variety of good educations, which suggests that a system of competing primary and secondary schools might have similar results. But be sure that this is a relevantly similar example. At present, for example, many colleges and universities are tax-supported. Would a system without tax-supported public institutions offer good educations to as many people? Would it bring as many diverse people into contact?

Maybe there are more relevant similarities between schools under the voucher plan and the present parochial and private schools. Here you also need some arguments from *examples* and/or from *authority*. How good are the present private and parochial schools compared to the public school system? Do they produce people who are as tolerant of other people? (How good is the record of private schools on racial desegregation, for instance?)

Deductive arguments may also be useful. Here is a hypothetical syllogism:

If we set up a voucher plan, then schools would be competing for students.

If schools are competing for students, then they will use advertisements and promotions to encourage parents to “shop around.”

If parents are encouraged to “shop around,” then many parents will move their children from school to school.

If many parents move their children from school to school, many children will not form lasting friendships or feel secure about their surroundings.

Therefore, if we set up a voucher plan, many children will not form lasting friendships or feel secure about their surroundings.

As section 26 pointed out, hypothetical syllogisms can often be used in this way to explain the connections between causes and effects. They may also be used to *work out* what those connections might be in cases where you are not sure whether there is a connection.

(A2) Question and defend each argument's premises

When the premises of an argument are open to question, you must consider arguments for *them* as well.

Suppose you are considering the hypothetical syllogism just sketched. You know that it is a valid argument; the conclusion does indeed follow from the premises. But you still need to be convinced that the premises are *true*. To continue exploring the issue, then, you must go another step: you must try to come up with arguments for any of the premises of the argument which might reasonably be questioned.

For example, an argument for the second premise ("If schools are competing for students, then they will use advertisements and promotions to encourage parents to 'shop around'") might use an analogy:

When stores compete for customers, they try to offer special deals and services to make themselves look more attractive than the competition, and they advertise heavily in order draw new customers in and old customers back. Then the other stores respond with *their* special deals and *their* advertisements. Customers are drawn from store to store and then back again: they believe that they can get the best deal by "shopping around." It would be just the same with competing schools. Each school would advertise and offer special deals, and the other schools would respond. Parents would "shop around" just like grocery shoppers or department store customers do now.

Not every claim needs much defense. The first premise of the hypothetical syllogism ("If we set up a voucher plan, then schools will be competing for children") is obvious enough to assert without much argument: this is the whole *idea* of the voucher plan. The second premise did need an argument, however, and so would the fourth ("If many parents move their children from school to school, many children will not form lasting friendships or feel secure about their surroundings"). You might also have to defend some of the premises of *these* arguments in turn. In the argument for the second premise suggested above, you might go on to offer examples to show that stores do indeed offer special deals and advertise heavily in the face of heavy competition.

The rule is: any claim liable to reasonable question needs at least some defense. Naturally, space will often limit what you can say. Given limited space or time, argue chiefly for your most important and/or most controversial claims. Even then, however, cite at least *some*

evidence or authority for any other claims which remain debatable.

(A3) *Revise and rethink arguments as they emerge*

Rules A1 and A2 outline a *process*. You may have to try several different conclusions—even opposite conclusions—before you find a view that can be defended with strong arguments. Even after you have settled on the conclusion you want to defend, you may have to try several forms of argument before you find one that works well. Quite probably your initial argument will have to be improved. Many of the rules in Chapters I–VI illustrate how short arguments must be improved and expanded: by adding examples to an argument by example (section 8), by citing and explaining the qualifications of an authority (sections 13 and 14), and so on. Sometimes you will not be able to find enough examples, and so you may have to change your approach (or change your mind!). Sometimes you may go in search of an authority to support a claim you want to make, only to find that most authorities take the opposite view (you probably have to change your mind), or that the most informed people still disagree sharply with each other (and then you cannot argue from authority at all: remember rule 16).

Take your time. (And give yourself time to take!) This is the stage where revision is easy and experiments are cheap. For some writers it is the most satisfying and creative part of writing. Use it well.

Composing an Argumentative Essay

B. Main Points of the Essay

Suppose that you have arrived at a conclusion which you think you can defend adequately. Now you need to *organize* your essay so that it covers everything that needs to be covered, and so that you can present your argument most effectively. Get out a large sheet of scratch paper and a pencil: you are about to prepare your outline.

(B1) *Explain the question*

Begin by stating the question you are answering. Then explain it. Why is it important? What depends on the answer? If you are making a proposal for future actions or policies, like the voucher plan, begin by showing that

we presently have a *problem*. Why should others share your worries or be interested in your ideas for change? What led *you* to be concerned?

Consider your audience. If you are writing for a newspaper or public presentation, your audience may be unaware of the issue, or unaware of the extent of the problem; your job is to make them aware. Restating the problem can be useful even when it is no news. It helps to locate your proposal—what problem are you trying to solve?—and it may help remind those who are aware of the problem but who may not have considered its importance. (If you are writing an academic essay, however, do not try to restate the whole history of the issue. Find out how much background your instructor expects.)

To justify your concern with a particular question or issue, you may need to appeal to shared values and standards. Sometimes these standards are simple and uncontroversial. If you have a proposal about traffic safety, you will probably find that its goals are obvious and noncontroversial. Nobody likes traffic accidents. Other arguments can appeal to standards shared by a specific group, such as professional codes of ethics, or to institutional standards, such as the standards of student conduct that a school endorses. They can appeal to the Constitution and to our shared political ideals, like freedom and fairness. They can appeal to our shared ethical values, such as the sanctity of life and the importance of individual autonomy and growth, and to broad social values such as beauty and intellectual curiosity.

(B2) *Make a definite claim or proposal*

If you are making a proposal, be specific. "Something should be done" is not a real proposal. You need not be elaborate. "Everyone should eat breakfast" is a specific proposal, but also a simple one. On the other hand, if

you want to argue that the United States should institute a voucher plan, some elaboration is necessary, to explain the basic idea, how payments would work, etc. Similarly, if you are making a philosophical claim, or defending your interpretation of a text or event, first state your claim or interpretation *simply* ("God exists"; "The American Civil War was caused primarily by economic conflicts," etc.); elaborate later as necessary.

If your aim is simply to assess some of the arguments for or against a claim or proposal, you may not be making a proposal of your own, or even arriving at a specific decision. For example, you may only be able to examine one line of argument in a controversy. If so, make it clear immediately that this is what you are doing. Sometimes your conclusion may simply be that the arguments for or against some position or proposal are inconclusive. Fine! But make that conclusion clear immediately. Begin by saying: "In this essay I will argue that the arguments for X are inconclusive." Otherwise, it is *your* essay that will seem inconclusive!

(B3) *Develop your arguments fully*

Once you are clear about the importance of the issue you are addressing, and once you have decided exactly what you intend to do in your paper, you are ready to develop your main argument.

Planning is important. Your paper has limits: don't fence more land than you can plow. One argument well-developed is better than three only sketched. Do *not* use every argument you can think of for your position: this is like preferring ten very leaky buckets to one well-sealed one. (Also, the different arguments may not always be compatible!) Concentrate on your one or two best.

If you are making a proposal, you need to show that it will solve the problem with which you began. Sometimes just stating the proposal is enough. If the problem is that your health is suffering because you do not eat a full breakfast, then eating a full breakfast is the obvious solution. If your proposal is that the United States set up a voucher plan, however, then some careful argument is necessary. You need to show that a voucher system really would encourage freedom of choice, that there would be a variety of schools available, and that these schools would be a clear improvement over the present schools. You will have to argue about cause and effect, argue from example, and so forth, and the rules discussed in previous chapters apply. Use the arguments you began to develop in Chapter VII.

If you are arguing for a philosophical claim, this is the place to develop your main reason(s). If you are arguing for your interpretation of a text or event, this is the place to explain the details of that text or event and to work out your interpretation in detail. If your essay is an assessment of some of the arguments in a controversy, explain those arguments and the reasons for your assessment. Once again, remember the rules from previous chapters. If you rest a claim on an argument by example, be sure you have enough examples, representative examples, etc. If you use a deductive form, make sure that it is valid and that any questionable premises are defended as well.

(B4) *Consider objections*

Anticipate skeptical questions. Is your proposal affordable? Will it take too long? Has it been tried before? Can you get people to carry it out? If your proposal will be a difficult one to carry out, admit it; argue that it is worth carrying out all the same.

Most proposals have many effects, not just one. You need to consider what *disadvantages* your proposal might have. Anticipate disadvantages that others might raise as objections; bring them up yourself and respond to them. Argue that the advantages outweigh the disadvantages (and be sure, once you've considered them, that they really do!). True, the voucher plan might make schools less stable, but that might seem a small price to pay to make schools more responsive to the wishes of parents and communities. You can also argue that some possible disadvantages will not actually materialize. Maybe the schools will *not* become unstable: after all (use an argument by analogy), businesses are not destabilized when they are forced to respond to changing customer preferences.

Anticipate objections to your claim or interpretation. If you are writing an academic paper, look for criticisms of your claim or interpretation in the class readings. Once you have explored the issue carefully, you will also find objections by talking to people with different views, and in your background reading. Sift through these objections, pick the strongest and most common ones, and try to answer them.

(B5) Consider alternatives

This is an obvious rule, but it is constantly overlooked. If you are defending a proposal, it is not enough to show that your proposal will solve a problem. You must also show that it is *better* than other plausible ways of solving that problem under the circumstances.

The U of Q's computer facilities are overcrowded, especially near the ends of the terms. Therefore, the U of Q should expand its computer facilities.

This argument is weak in several ways: "overcrowded" is vague, and so is the proposal. But remedying these weaknesses will not justify the conclusion. There may be other and more reasonable ways of ending the crowding. Perhaps computer time should be rationed, so that people use it more consistently instead of putting everything off until the end of the term. Or perhaps the U of Q should prohibit certain uses of the computer near the end of the term. Or perhaps the University should do nothing at all; let users readjust their use for themselves. If you still want to propose that the U of Q should expand its computer facilities, you must show that your proposal is better than any of these alternatives.

Similarly, if you are interpreting a text or event, you need to consider alternative interpretations. No matter how cleverly and thoroughly you may explain why something happened, some other explanation may seem more likely. You need to show that other explanations are *less* likely: remember rule 19. Even philosophical claims have alternatives. Does the argument from creation (section 12) show that *God* exists, or only that a *Creator* exists who might not necessarily be everything we think of when we speak of "God"? Argument is hard work!

Composing an Argumentative Essay

C. Writing

You have explored your issue and worked out an outline. You are finally ready to write the essay itself. Remember again that writing the formal version is only the *last* stage! If you have just picked up this book and opened it to this chapter, reflect: there is a reason that this is the last chapter and not the first. As the proverbial old Irishman said when a tourist asked him how to get to Dublin: if you want to get to Dublin, don't start here.

Remember too that the rules of Chapters I–VI apply to writing an essay as well as to writing short arguments. Review the rules in Chapter I in particular. Use definite, specific, concrete language; play fair; and so forth. What follow are a some additional rules specific to writing argumentative essays.

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(C1) Follow your outline

In the last chapter you developed a five-part outline of your argumentative essay. Follow your outline as you begin to write. Don't wander from one point to a related point which is supposed to come later. If you find as you write that the essay fits together awkwardly, stop and revise your outline; then follow the new one.

(C2) Keep the introduction brief

Some students use the entire first page of a four-page argumentative essay simply to introduce the paper, often in very general and irrelevant ways.

NO:

Philosophers for centuries have debated about the existence of God . . .

This is padding. It's no news to your philosophy instructor, and even someone who knew nothing at all about the debate could write it. Get to the point.

YES:

In this essay I will argue that God exists.

OR

This paper will argue that instituting a voucher system for primary and secondary education would lead to a society of greater intolerance and isolation between people of different classes.

(C3) Give your arguments one at a time

As a general rule, make one point per paragraph. Including several different points in the same paragraph only confuses the reader and lets important points slip by.

Use your main argument to plan your paragraphs. Suppose that you intend to argue against the voucher system on the grounds that under a voucher system children would not form lasting friendships or feel secure about their surroundings. First make your intentions clear (rule B2). Then you might use the hypothetical syllogism we have already sketched:

If we set up a voucher plan, then schools would be competing for students.

If schools are competing for students, then they will use advertisements and promotions to encourage parents to "shop around."

If parents are encouraged to "shop around," then many parents will move their children from school to school.

If many parents move their children from school to school, many children will not form lasting friendships or feel secure about their surroundings.

Therefore, if we set up a voucher plan, many children will not form lasting friendships or feel secure about their surroundings.

State this argument first in an paragraph beginning "My main argument will be that . . ."; you might not want to include all the steps, but give the reader a clear idea of where you are going. Then, to explain and defend this argument, devote one paragraph to each premise. The first paragraph might be brief, as the first premise does not require much defense; just explain that this is the idea of the voucher plan. The second paragraph might

be the short argument for the second premise suggested in section A2.

Follow this pattern for all arguments, not just deductions. Remember this argument from section 8:

The right of women to vote was won only after a struggle.

The right of women to attend colleges and universities was won only after a struggle.

The right of women to equal employment opportunity is being won only with a struggle.

Therefore, all women's rights are won only after struggles.

Once again, a good essay will first explain the importance of the issue, then make the conclusion plain, and then devote a paragraph (sometimes several paragraphs) to each premise. A paragraph should defend the first premise by explaining how women won the right to vote, another several paragraphs should defend the second premise by showing with examples what a struggle it was for women to begin attending colleges and universities, and so on.

Notice, in both of these arguments, the importance of using consistent terms (rule 6). Even the short arguments considered in rule 6 were hard to understand without consistent terms, but when premises such as these become the lead sentences in separate paragraphs, it is their parallel phrasing that holds the argument as a whole together.

(C4) Clarify, clarify, clarify

Maybe you know exactly what you mean; everything is clear to you. Often it is far from clear to anyone else. Points that seem connected to you may seem completely unrelated to someone reading your essay. Thus it is essential to explain the connections between your ideas, even if they seem perfectly clear to you. *How* do your premises relate to each other and support your conclusion?

NO:

Having a choice of many schools is better than having just one. This is a traditional American value. Thus, we should set up a voucher system.

What is the connection between having many schools and "a traditional American value"? At first glance, in fact, the writer's claim seems to be false: traditionally America has favored the single public school. More carefully explained, however, there is an important idea here.

YES:

Having a choice of many schools is better than having just one. Americans have always valued having choices: we want to have a choice between different cars or foods, between different candidates for office, between different churches. The voucher system only extends this principle to schools. Thus, we should set up a voucher system.

Clarity is important for yourself as well as for your readers. Points that *seem* connected to you may not *really* be connected, and by trying to make the connections clear you will discover that what seemed so clear to you is not really clear at all. Many times I have seen

students hand in an essay that they think is sharp and clear, only to find when they get it back that they can barely understand what they themselves were thinking when they wrote it! One good test of clarity is to put your first draft aside for a day or two and then read it again: what seemed clear late Monday night may not make much sense Thursday morning. Another good test is to give your essay to a friend to read. Encourage him or her to be critical!

You may also have to explain your use of certain key terms. You may need to give common terms a meaning more precise than usual for purposes of your essay. This is fine as long as you *explain* your new definition, and (of course) stick to it.

(C5) Support objections with arguments

Naturally you want to develop your own arguments carefully and fully, but you also need to develop possible arguments on the *other* sides carefully and in detail, if not quite as fully as your own. Suppose, for example, that you are defending a voucher plan. When you turn to objections (rule B4) and alternatives (B5), consider how people would argue against your plan.

NO:

Someone might object that the voucher system is unfair to poor or handicapped people. But I think that . . .

Why would someone object that the voucher system is unfair? What *argument* (as opposed to simple *opinion*) are you responding to?

YES:

Someone might object that the voucher system is unfair to poor or handicapped people. Handicapped students usually require more school resources than non-handicapped children, for instance, but with a voucher system their parents would receive only the same voucher as everyone else. Parents might not be able to make up the difference, and the child would be poorly provided for.

The objection about poor families, as I understand it, is this: poor families might be able to send their children only to low-budget schools which didn't charge anything above and beyond the voucher, while the rich could afford better and more varied schools. Therefore, it might be objected that the voucher system represents "freedom of choice" only for the rich.

I would respond to these objections as follows. . . .

Now it is clear exactly what the objections are, and you can try to respond to them effectively. You might, for instance, propose special vouchers for handicapped students. You might not even have thought of this possibility if you had not detailed the arguments behind the objection, however, and your readers certainly would not have understood the point of special vouchers even if you had mentioned them.

(C6) *Don't claim more than you have shown*

End without prejudice.

NO:

In conclusion, every reason seems to favor the voucher plan, and none of the objections stands up at all. Obviously,

the United States should adopt a voucher plan as quickly as possible.

YES:

I have argued in this essay that there is at least one good reason to adopt the voucher plan. Although there are some serious objections, it seems possible to modify the voucher system to deal with them. It's worth a try.

Maybe the second version overdoes it in the other direction, but you see the point. Very seldom will you answer all the objections adequately, and even when you do, new problems may surface tomorrow. "It's worth a try" is the best attitude.