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THINKING STRAIGHT

PRENTICE-HALL ENGLISH COMPOSITION AND INTRODUCTION TO LITERATURE SERIES

Thomas Clark Pollock, Editor

THINKING STRAIGHT

A Guide for Readers & Writers

by Monroe C. Beardsley

SWARTHMORE COLLEGE

New York

PRENTICE-HALL, INC.

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THIS BOOK is a shorter version of *Practical Logic* (also published by Prentice-Hall, Inc., 1950). The first six chapters are taken over in exactly the same form, but Chapters 7 and 8 present a selection of the material in the last nine chapters of *Practical Logic*.

In writing this book I have received a considerable variety of assistance, which I am glad to acknowledge.

The idea of the book, and of what is most original in its purpose, came to me from Mr. William A. Pullin, Assistant Vice-President of Prentice-Hall, Inc., who has been constantly helpful, in a number of ways, at every stage of its composition. I thank Professor Maynard Mack, Department of English Literature, Yale University, for his guidance when the writing was just getting under way, and for many useful suggestions about the manuscript. I thank Professor Thomas C. Pollock, Dean of Washington Square College, New York University, for his patient and thorough editing of my various drafts, and for his valuable comments and corrections.

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Finally, I should like to record my indebtedness to two persons whose contributions, though deep and pervasive, are not so easy to

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M. C. B.

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PREVIEW

WHEN YOU REGISTER to be a voter, you usually have to pass a "literacy" test. An official points out, let us say, a paragraph from the state's fish and game laws, and asks you to read a few lines. If you can pronounce the words in some recognizable fashion, and if you give the impression of having a rough notion of what they are about, you are "literate." You can "read," and you can vote.

This is "reading," but it is reading only in a pretty bare and primitive sense. A person who can do this can presumably do the simplest reading jobs he meets in getting about in the world. He can find his way around a clover-leaf turn, because he can read "Left" and "Right." He can get something to eat, because he can tell the difference between "Lunch Room" and "Barber Shop." He knows what it means when a bottle says "Poison" or a newspaper says "Rain tomorrow." And this is, of course, useful.

Critical Reading

If political candidates came labeled "Poison" or "To be taken at the first sign of trouble," a first- or second-grader could read well enough to vote. If bills debated on the floor of Congress were marked with infallible signs reading "Right" or "Left," it would be easy to discern which way the government is moving politically, and to telegraph our Congressmen accordingly. But when we have to make up our minds, as citizens, on important questions, and when we have to find out what's going on by reading our newspapers and magazines and listening to our radios, the mere ability to read labels doesn't help us very much.

The problems we face as readers in the ordinary run of events are rather more complicated. We open a newspaper, and find:

> Senator William Langer, Republican, of North Dakota, introduced today a "civil rights" amendment to the bill repealing the excise tax on oleomargarine, which the Senate is considering.

> Such maneuvers have in the past been used to kill a pending bill by forcing a filibuster on the part of Senators who will not risk a vote on the civil rights issue.
>
> The present bill is a substitute for the Administration's bill, differing from the latter in that it would repeal not only the excise oleomargarine tax, but also all wartime "luxury" taxes, and would prohibit the shipment of yellow oleomargarine in interstate commerce. "We shall insist upon this last provision," said a spokesman for the dairy farmers, "not out of selfish interests, but solely to prevent artificially colored margarine from being shipped to other states in order to be passed off on the unsuspecting housewife as genuine vitamin-rich butter."

A person who is merely "literate" could read through this and make something of it; if he were asked to say what it was about, he might reply, "Oh, there's some fight about oleo taxes." And perhaps he might add, "I'm against them," or "I'm for them."

But, clearly, if we are going to depend upon these two paragraphs, and others like them, as a basis for deciding whether or not taxes on oleomargarine ought to be repealed, we must read the paragraphs in a pretty serious way. We must read them critically. And this requires a good deal more than mere "literacy." We must understand exactly what the issue is about: what an "excise" tax is, what the "luxury" taxes are, which "civil rights" amendment has been proposed. We must *question* what we read. Why do some Senators want to repeal the taxes? Will a repeal decrease the cost of oleomargarine? Why is there objection to repealing them? What should we make of the claim that, unless interstate shipments of colored margarine are prohibited, there is danger that margarine will be sold as butter?

Critical reading—reading with our critical faculties wide awake—involves much more than merely getting a rough idea of a passage (say, the quotation from the "spokesman for the dairy farmers"), and then accepting it as true without stopping to think. Critical reading involves understanding clearly the meaning of the words—not only what they label, but the *full* sense of what they convey about the things they refer to and about the people who use them. For example, notice the damaging effect of the phrase "*artificially* colored margarine." Critical reading involves reading *between* the lines for the exact point of view, the underlying assumptions, the

full implications of what is said. For example, notice how the spokesman hints that margarine is *not* "vitamin-rich," like butter.

Critical reading involves making a patient effort to find out what *reasons* are given for any claims a passage makes. And it involves making a decision that the reasons are good enough to accept or so poor that they must be rejected. For example, is the fact that someone might misrepresent colored margarine as butter a good reason for prohibiting the shipment of colored margarine across state boundaries? If someone should point out that, after all, butter is artificially colored, too, would this be relevant to the question of taxing colored margarine?

In short, critical reading involves *thinking.*

Straight Thinking

A driver doesn't have to look at his road map once he starts on a highway, as long as he doesn't come to any intersections. He doesn't have to worry about which way to go if he has no choice about it. But when he comes to a crossroads, with signs pointing in various directions—then he can't just let the road decide where he is to go; he has to make up his mind. He has to stop and think.

The same thing is true in most departments of life. Generally speaking, we don't think unless we have to make a choice—unless we have a *problem.* To put it another way, thinking is something we do to answer a *question.* Shall I keep my job or look for a different one? Shall I buy a car now or wait? Shall I vote for the candidate who favors a Federal plan for health insurance or for the candidate who opposes it as "socialistic"? It is a *question,* more or less clearly grasped, that starts us thinking.

A problem arises out of a situation that puzzles us in some way but at the same time demands that we do something about it. There's no problem unless there is some sort of conflict, or apparent conflict, within the situation: some difficulty that we can't understand or get rid of. Suppose we want everyone in the country to have adequate medical care, but are afraid that if this is provided by a Federal health plan the government will have too much power over its citizens. Never mind the merits of this issue at the moment: the point is that it is the presence of conflicting aims that makes the problem. And this is where thinking comes in.

But there is thinking *and* thinking.

People with problems make up their minds in all sorts of ways. One man consults his astrologist before undertaking a big business deal. Another always votes for the candidate whose name seems most familiar. Another always buys the most expensively advertised goods, on the principle that these must be the best if so much is spent on advertising them. Maybe you think these are extreme examples of poor thinking. But they're not uncommon.

Of course, the man who can think well doesn't tackle his problems in any such hit-or-miss fashion. He begins by making sure he knows exactly what his problem *is:* he gets a good grip on the question he wants to answer. He doesn't go off half-cocked, but thinks of various possible ways of answering his question. He looks for reasons for or against each answer, and he picks the one that stands out as most promising in the light of all his relevant information. In short, he makes an effort to think straight about what he is doing. Straight thinking plunges to the heart of a problem, seizes upon the essentials of it, and comes up with an answer that stands a good chance of meeting the test of practice. No one can help making mistakes. But the straighter we think, the fewer, and the less costly, our mistakes.

So far we have been talking in a pretty broad way about straight thinking. The important thing is to bring this description down to brass tacks, by seeing exactly how, in specific cases, we can spot crooked thinking and straighten it out. That is what we are going to do in this book.

Reading for Information

There are many purposes we may have in mind when we read. We may read to keep unpleasant thoughts out of our mind, to learn something, to show people that we are acquainted with a fashionable novel, out of sheer habit, or just for the fun of it. But two of these purposes perhaps loom larger than the others, at least for most of us.

First, we read for *enjoyment.* Usually when we read a story, or listen to a play on the radio, and sometimes when we read history or biography, we have no aim beyond the pleasure of reading. We may be seeking a certain kind of experience, the nature of which

is very difficult to describe, but of which we say that it is "valuable in itself." Whether it is because the experience is one of a heightened sense of awareness, or because it is qualified by new and subtle emotion, or because it is an unusually unified and integrated experience, such as we seldom have in the ordinary course of events —in any case, it is an experience to be enjoyed for its own sake. The book or the play becomes an object to be cherished just because it affords such an experience.

But there is another powerful motive that enters and becomes dominant at other times: as when we look a number up in the telephone directory, study a textbook on cost accounting, or read an editorial on international affairs. We can enjoy these things, too, but we read primarily because we want to *know* something we don't already know. We want to get at the *truth* about business conditions, the prospects for peaceful change in Southeastern Asia, or the qualifications of a political candidate. In the broadest sense, we are reading for *information.*

The newsstands, of course, are cluttered with books and newspapers and magazines, and the air-waves with reports and speeches, that claim to give us information. More than ever before we are bombarded by a stream of assertions and denials, claims and counter-claims, rumors and accusations, commands and prohibitions. And that is just where our problem lies. For the amount of "information" constantly pouring forth from all of the great "mass media" of communication is paralyzing. The more we improve our means of communication, the more difficult it is to escape the commentator, the ad-man, the public-relations expert, the special correspondent, the roving editor. We all belong to what the broadcasters call a "captive audience." We are asked to believe that British socialism is flourishing, and that it is on the rocks; that Representative So-and-so is brilliant, and that he is incompetent; that huge aluminum companies and huge chain-stores are beneficial to the consumer, and that they are a menace. And so it goes: there is always someone warning, cajoling, wheedling, threatening, pleading. We are asked, not only to believe, but to act upon the belief: to pull the second lever, to sign the petition, to go to the nearest drugstore, to buy or sell, hire or fire, eat or not eat.

We know that much of what we read or hear is not information

at all, but rank *misinformation*. But we are indifferently successful at separating the truths from the falsehoods. Even when we are pretty sure that a report is reliable, we still may not be able to sort out what is significant in it from what is trivial; and a newspaper that gives the same size headlines to lost dogs and to decisions made by the United Nations doesn't help us much.

Reading for information, then, is not an easy job. But it is clearly a job we are all called upon to do the moment we accept the responsibilities of citizenship. If we are willing to live under a government that claims to be guided by the judgments of its citizens instead of by the infallible principles of dialectical materialism or by the infallible "intuitions" of a man on horseback, then we must be willing to make those judgments as reasonable as we can. And especially if we want to see our government move toward a more complete democracy, despite all the hazards of twentieth-century life, if we want it to become a more sensitive and effective instrument of the popular will, then we must ensure that everyone who has a hand in government—not only the politicians themselves—acts, as far as possible, in a rational way. And to act rationally is, at least in part, to take account of what can be reliably known about the conditions and the consequences of acting.

Reading for information is a skill that can be improved by practice, if practice is guided by the right method. To do it well, we must first know something about the way language works: how it is used, and how it is misused. We need some rules that we can apply to the interpretation of what we read or hear, to find out exactly what it *means*. Then we must know something about logic and the principles of correct reasoning. For we have to compare, analyze, weigh what is said, to find out whether it is *true*.

This book supplies in an elementary form the outline of such a method of critical reading. We shall not attempt to deal with the pure theory of language and logic. We shall select, from what is known of these subjects, certain general and very useful practical rules. We shall make a number of distinctions that are a powerful aid to clear thinking. It will be necessary to introduce a limited number of unfamiliar technical terms, because our ordinary language is not equipped to make certain distinctions as clear as we shall want them to be. Some of the differences that ordinary

language overlooks are of the greatest importance for clear thinking. But every technical term will be carefully defined and its meaning clarified by examples. And no words will be used except those that are necessary for the main purpose of the book, which is to explain the logical points to bear in mind whenever we face the problem of making up our minds about what we read in the course of everyday life.

How to Use This Book

The aim of this book is, then, a practical one. It is to help you read more critically—that is, with more understanding and with better judgment—and write more accurately. At bottom, the problem for both the reader and the writer is to make words behave as tools of straight thinking rather than as stumbling-blocks for it.

The principles we shall study apply to all reading and writing, no matter what it is about, that has to do with the communication of knowledge. You can apply these principles to any book or article that you may read to find out what you should believe; you can apply them to any project, or proposal, or report that you may be writing in order to show someone else what he should believe. The principles apply to the most difficult books as well as to the simplest. But we shall be especially concerned with the everyday sort of reading and writing that most of us have to do in the ordinary course of events.

This practical purpose prescribes the contents of this book, and also the order in which the contents are presented. There are eight chapters. The first deals with the basic distinctions that we must take into account when we approach any piece of writing or speech. The next four chapters deal with language: with the confusions arising from the fact that words have many meanings (Chapter 2), with the kinds of meaning and the connotations of words (Chapter 3), with special problems involved in interpreting figurative language (Chapter 4) and emotive language (Chapter 5). Chapter 6 deals with the problem of definition. And the last two chapters deal with simple, useful principles of deductive logic (Chapter 7) and inductive logic (Chapter 8).

Thus the chapters follow a certain order: roughly the order in

which you should ask the right questions about what you read when you want to know whether it is true. But the book is nevertheless flexible. The chapters, and even, for the most part, the individual sections, are quite independent of one another, so that if your time is limited you can find what you want without delay. The only difficulty in skipping is that some technical terms, once they are introduced, are used throughout the book. However, the index will enable you to look up the definition of any special term, and the outline-summary at the end of each chapter will give you the main ideas of a chapter, if you have to skip it.

This is above all a practical book, and as you read it you will be constantly invited to put its principles to work. At the end of each of the first four sections of a chapter, there is a "check-up quiz," a quick exercise to make sure you understand the main points of that section. The exercises at the end of each chapter, of which there is a considerable variety, are generally harder and more searching. They test various skills: to do some of them, you need only perceive a distinction clearly; to do others, you need to write a short essay. Every principle of logic that is explained in the text is amply covered in the exercises.

The exercises will present you with problems like those which are bound to arise in the course of your ordinary reading and writing. But since they are selected to illustrate particular points, they generally do not approach the complexity or the perplexity of problems that arise in many situations. Therefore, to make the most of this book, you will find it helpful to be on the look-out for examples of confused and crooked thinking, and to collect them from your own reading. If you read with some care you will not have much difficulty in finding examples of most of the mistakes discussed in this book.

Since *Thinking Straight* is only a beginning to the study of logic, there is a great deal more to know about the subject. Books recommended for further reading are listed at the end of most sections, and whenever you wish to pursue a problem beyond the point at which we must leave it, you can follow up those recommendations.

You will get the most out of this book if you know something of what you are looking for as you study it, and if you know whether

you are finding what you are looking for. If you know, at the beginning, what kinds of mistakes in thinking you make most easily, you can decide what sections of the book you especially need to study. A good way to begin, then, is to try the following:

DIAGNOSTIC TEST. How good is the thinking in the passages below? Read each passage carefully. If you find that the thinking is confused or crooked, mark it "O." If it seems satisfactory, mark it "+."

A. IS THE PRESS FREE?

In the United States few people deny that there *ought* to be freedom of the press. But many people have doubted that there actually is freedom of the press. This controversy is fairly constant, and it seems to become particularly sharp around election time. In the Presidential election of 1948, a very large majority of the nation's newspapers supported the Republican candidate (as in previous elections), and yet the Democratic candidate (as in previous elections) won the election. Once again the question was raised, and actively discussed: Do the newspapers, by and large, express the opinions of the "people" or of "special interests"? Here are some remarks made in a radio discussion of this question.

1. The newspapers represent the people they belong to, naturally. But practically everyone buys newspapers—and so they belong to practically everyone. How can you deny that they represent public opinion?

2. By and large, the newspapers in this country make a strenuous effort to present the truth honestly, fairly, and objectively. The evidence for this statement may be found in an interesting article in last Sunday's *New York Courant.*

3. Look at the nasty and scurrilous stuff some columnists write and hundreds of papers print. The editors, of course, say that the columnists don't express the opinion of the newspaper, and they call that "freedom of the press." In other words, to be free, according to those editors, a newspaper has to print garbage.

4. Freedom of the press? Freedom from *what?* Freedom for *whom?* In some countries you can't criticize the people

running the government. In other countries you can't criticize the *form* of government. In our country you can't criticize the advertiser—not severely, anyway. It's all a matter of degree. There's no real difference between the American press and any totalitarian press.

5. The newspapers ought to be our best means of public education in politics and economics. But how useful are they? Pick up the first dozen newspapers you see thrown away on the street, in subways or buses. Their most prominent stories will be about crime, sex, and sport. Obviously, most newspapers are of no educational value whatever.

6. Of course a newspaper should mean something—it should take a stand on important issues, and it should express the will of its readers. But a newspaper cannot be *truly* free, as it should be, if it represents a special pressure group, and becomes a propaganda organ for some limited body of people.

7. A democracy will always have a responsible government, provided its press is free. For only a nation in which people are well informed can have a responsible government, and only in a nation with a free press can the people be well informed.

8. Controversies about "freedom of the press" are futile unless this term is carefully defined. Now, *one* of the things meant by this term is, I believe, "definite limitation of governmental control over what the newspapers print." If this sense, which I think is the usual sense, is reasonably clear, it seems convenient to see the term *only* in this sense. In that case, we must say that the American press is free.

9. I think it's just terrible for people to say such things about the newspapers! If people go around undermining confidence in the printed word, and throwing open the flood-gates of skepticism and cynicism and atheism, there is no telling what may happen! Why, how can we pretend to be a great nation if we admit that our newspapers are full of lies and can't be trusted?

10. The American press is in a vigorous and healthy state. For example, according to *Editor and Publisher,* only 40 per cent of the daily press supported Roosevelt in 1932, 36 per cent in

1936, and 23 per cent in 1940—despite his overwhelming victories. This is very significant, for it indicates that, on the whole, the press has striven to be fair and objective. When the tide of public opinion was moving one way, publishers bent over backwards to present the other side of the picture, with no thought to the unpopularity of their stand.

11. "Short headlines," concedes a recent defender of the press, "occasionally do distort the facts presented in a newspaper column." In plain English, short headlines are lies to take in the morons who don't read, or don't believe, anything unless it's in large print.

12. As far as is consistent with public welfare, any enterprise ought to be left to the free decisions of its management. Granted. But we do not permit a public utility, say an electric power company, to decide how and when and to whom it shall deliver electricity, or to change its voltage at its own whim. Now, newspapers exist to sell information, just as a power company sells electricity—and they are equally vital to our welfare. Therefore, the government has a right to exercise whatever control is necessary to secure a minimum standard of quality—that is, truthfulness—in the press.

B. SHOULD LITERATURE BE CENSORED?

On one day in March, a few years ago, the "vice squad" in one of America's largest cities raided fifty-four bookstores and newsstands and carried off over two thousand copies of eighteen different novels. The inspector in charge had been receiving complaints that "lewd" and "improper" literature was being sold in that city. The list of books which he had compiled and which he ordered his clerk to read and report on before he sent his squad to bring them in included some books by Thorne Smith and Tiffany Thayer; it also included the following books: *Sanctuary,* by William Faulkner; *Raintree County,* by Ross Lockridge, Jr.; *Tobacco Road* and *God's Little Acre,* by Erskine Caldwell; and the *Studs Lonigan* series, by James T. Farrell.

The action aroused a good deal of controversy; scores of letters were printed in newspapers, protesting or defending the seizure. Here are some excerpts from those letters:

13. I say we should ban all proletarian novels, whether old or

new, which are underhanded attacks on the American Way of life.

14. The whole question is quite simple, and it boils down to this: Could any radio station broadcast the dialogue of *Studs Lonigan* to every home in the nation? That's the test. If not, it shouldn't be printed or sold.

15. All great literature is a sincere attempt to picture life as the writer sees it. These books are sincere, and they are therefore great literature.

16. Everyone must admit that calling a spade a spade is not enough to condemn a book. I don't see how anyone could be consistent if he wouldn't let people read these fine examples of modern realistic prose and yet allowed people to read the story of Lot's daughters (Genesis, ch. 19) or of Onan (Genesis, ch. 38).

17. *Really* great literature, according to my definition, is literature that strives to ennoble and inspire the reader to the best of which human nature is capable. Therefore, William Faulkner's novels are not great literature.

18. I suppose we have to put up with this sort of thing. A man writes a frank and honest story about the troubles of real-life people, and along comes some queasy bureaucrat, probably looking for a quick promotion, to smirch the purity of Art with his official paws.

19. Books are the currency of the human spirit. Now, in economics there is a law called "Gresham's Law," according to which cheap money always drives good money out of circulation. This proves that cheap books will drive out the good books, if we let them be sold willy-nilly.

20. If the question is whether the novels of Caldwell and Faulkner and Farrell are good literature or not, we can settle this question by asking the proper authorities: experts on American literature. Such professors have testified to their merit, and the police ought to accept their judgment.

21. I have called the books "indecent," and I have been accused of not knowing what I am talking about. When I say the books are "indecent," I have a clear meaning in mind. A book is indecent if its language, general atmosphere, and presentation do not correspond favorably to that which a

decent person (say, a physician or minister) would use in discussing such matters with a person of normal intelligence and average vocabulary.

22. I want to congratulate the *Evening Planet* for the vigorous stand it has taken in favor of human decency, culture, and civilization by supporting the police in their effort to eliminate literary turpitude in this city. I am glad to find you on the side of good taste and moral cleanness, and I am certain that the vast majority of our citizens are with you. I note that of 173 letters about the vice squad's action that appeared in your letter columns during the past week, only 22 were negative. Obviously at least 87 per cent of the public is behind you.

23. The long nose of prudery, waving the banner of Purity but secretly burrowing for smut to titillate its senses, sees everything through a mask of hypocrisy, and thus the censor, Mrs. Grundy's acolyte, aims to reduce all literature to a dead level of mediocrity.

24. Those who offer a blanket condemnation of all censorship must surely be wrong. Surely there are *some* books and magazines that, if they were allowed to circulate, would do more harm than good, and books of this sort should certainly be made illegal.

25. Novels that are morally objectionable can clearly be divided into four groups, of which, however, only the last two can justifiably be declared illegal: (1) those in which the characters of the story make untrue and insulting remarks about certain people; (2) those in which there is no justice—e. g., a murderer goes unpunished; (3) those that would tend to undermine the reader's morality; and (4) those that explicitly preach an objectionable moral code.

For principles that apply

to 1, 4, 13	*see* Chapter 2.
to 3, 11, 18	*see* Chapter 3.
to 12, 19, 23	*see* Chapter 4.
to 9, 14, 20	*see* Chapter 5.
to 8, 17, 21	*see* Chapter 6.
to 2, 6, 7, 15, 16, 24	*see* Chapter 7.
to 5, 10, 22, 25	*see* Chapter 8.

THINKING STRAIGHT

I

SIZING UP AN ARGUMENT

LET'S SAY you open a book, turn the page of a magazine, unfold a newspaper, listen to a news broadcast, or see someone rise at a meeting to make a proposal. Or you become aware that your acquaintance at lunch is neglecting his coffee to tell you his convictions about politics, race, modern art, food, sex, or the faculty. What you are reading or hearing consists of a series of words in a particular language, more or less connected according to the rules that make up the grammar of that language. For the sake of brevity, we shall call any such series of words (whether spoken or written) by the general term **"discourse."** A discourse may be long or short, in prose or verse, serious or trivial.

When you pay attention to a discourse and notice your own mental processes as they are affected by it, you find many things going on in your mind. You may be moved, irritated, amused, bored, cheered, or disgusted. But in order to think clearly about what you are hearing or reading, you must concentrate, not on your own feelings, but on the discourse itself. And the first thing to do is to find out what it says—that is, what *statements* it contains.

§1. STATEMENTS

When someone sneezes, you may be able to guess that he has hay fever, and you may feel sorry for him, but you don't say, "That's true." He *shows* that he has hay fever, but he doesn't *assert* that he has it. It would be different if he said, "I have hay fever"—you could agree with him. But you can't agree with a sneeze: a sneeze is neither true nor false.

Sneezes are not discourse, but they are like some discourse in this very important respect. A discourse is a string of sentences. And

though there are many ways of classifying sentences, for one purpose or another, we shall begin by concentrating on the distinction that is most fundamental from the logical point of view. Sentences can be divided into two groups: (1) those that cannot be true or false, and (2) those that must be either true or false.

Into the first group we shall put sentences of three grammatical types: (1) Most *interrogative* sentences: "What time is it?" "How can world trade be increased?" "What is the cause of cancer?" (2) Most *imperative* sentences: "Close cover before striking matches!" "Let's go to the movies!" "Thou shalt not kill!" (3) Most *exclamations:* "Ouch!" "Ugh!" "Hooray!"

Into the second group we shall put all declarative sentences (whether indicative or subjunctive): "Some species of centipede have one hundred and seventy-three pairs of legs." "She was a phantom of delight." "If Lee had won the battle of Gettysburg, the South would have won the War Between the States."

The sentences we have put into the first group are questions, commands, ejaculations. Although there are important differences among them, they all have something in common: they do not make an *assertion.* A person who says "Ouch!" doesn't commit himself to anything. We can't agree or disagree with him. Even if he is not really feeling a pain, we can't accuse him of lying. If someone says, "Please open the window," it makes no sense to reply, "I believe it," or, "I don't believe it." In short, questions, commands and ejaculations are not the kind of discourse that can be true or false.

But declarative sentences are quite different. It makes sense to reply to a declarative sentence, "I agree," or, "I don't agree." Declarative sentences can be true or false, and sentences of this kind we shall call **"statements."** Anything that is asserted can be a statement: reports, opinions, affirmations, denials, comments, remarks, judgments, propositions. To make a report or to express an opinion is to utter a declarative sentence, and all declarative sentences are true or false: that is, they are statements.

This point requires a little explanation, because there are a good many declarative sentences that it may seem strange to call "true" or "false." These statements are *incomplete* in various ways, and we can't find out whether they are true or false until they have

been cleared up. Statements like "I'm hungry" or "It's cold today" don't have a meaning until we know *who* is speaking and *when* he is speaking. Before we can say they are true or false, we have to know what person "I" refers to, and what day "today" refers to. But once we know that, we can consider their truth or falsity. Some statements, like "Hitler started the Second World War," are much too simple descriptions of very complicated matters, and we aren't ready to discuss their truth or falsity until we have made a number of distinctions. Other statements, like "Euthanasia is wrong," are the subject of serious disagreement, and sometimes such statements are said not to be true *or* false because they are merely "opinions," or because their truth is "relative" to some point of view. But even an opinion is not an opinion unless it is an opinion *about* something, and statements about right and wrong make assertions; they lay claim to truth; and their claim may be admitted or refused.

Thus a statement may not be clear enough, as it stands, so that we can *decide* whether it is true or false. But we can know that a statement must be true *or* false, even if we don't know which, or even if we shall never know which: for example, "There are four hundred and sixty-nine mountains on the other side of the moon." There are a good many problems here, some of which we shall deal with in Chapter 2; in the meantime, we shall continue to say that all declarative sentences are true or false.

True statements may be called simply **"facts."** The word "fact" has a number of meanings, and perhaps this way of using the word will at first strike you as unconventional. In common speech we sometimes mean by "facts," not true statements, but the things in the world that make the statements true. Thus we say that "Mice eat cheese" is true *because of* the fact that mice eat cheese. But this is an awkward way of speaking. As we shall see later, what we appeal to, or observe, in order to discover whether or not a statement is true are states-of-affairs and happenings (that is, events). And it seems unnecessary to speak of the redness of the rose or of the blooming of the rose as "facts."

Throughout this book, then, we shall use the word "fact" as meaning the same as "true statement." When someone refers to "the facts of the case," we shall understand him to mean "the true

statements about the case." When someone says it is a fact that mice eat cheese, we shall understand him to mean that the statement "mice eat cheese" is true. In a short time this usage will seem quite familiar, and it is very convenient.

All declarative sentences are statements, then, whether *affirmative* ("The door is shut") or *negative* ("The door is not shut"). In either case, something is asserted that may be denied or assented to. Moreover, some *parts* of declarative sentences are also statements: for example, nonrestrictive clauses that are introduced by relative pronouns. For such clauses may be agreed with, or objected to, on their own account. And with a little ingenuity, they can be transformed into independent sentences.

Take the following sentence as an example: "The workers refused to join the union, which was controlled by the company." This sentence has two clauses and may be broken down into two simple sentences: "The workers refused to join the union. The union was controlled by the company." It is not recommended that you translate all complex sentences into simple ones, of course, though sometimes this is an excellent way of making complicated meanings clear. In the present example, the translation brings out the importance of the comma. For, if the comma had been omitted after the word "union," the sentence would *not* have been equal to two sentences, since the clause would have been restrictive. A restrictive clause specifies more exactly what the main clause is about; it does not make an independent statement. For example, the sentence "He talked to the committeemen, who were at home" asserts that he talked to the committeemen *and* that the committeemen were at home. But in the sentence "He talked to the committeemen who were at home," the subordinate clause merely tells *which* committeemen he talked to.

Usually we have no trouble recognizing a statement when we see it, but sometimes we are a little puzzled. We have said that all declarative sentences are statements. But not quite all statements are in the indicative or subjunctive mood. There are certain kinds of questions, commands, and exclamations that include implicit assertions, and for our purposes they must be treated like declarative sentences.

First, consider *questions.* Some questions are direct questions

("Did it rain yesterday?"), but other questions have a negative form (*"Didn't* it rain yesterday?"). Direct questions merely ask for information; they do not assert. But negative questions are more complicated. "Didn't it rain yesterday?" is like saying, in an abbreviated way, "It did rain yesterday. Didn't it?" A negative question makes a *tentative* sort of assertion, but it is an assertion nonetheless. Such questions therefore include statements and can be *partly* translated into statements to make the implicit assertion explicit. The question, "If you prick us, do we not bleed?" then, includes the statement, "If you prick us, we do bleed."

Next, consider *commands.* Some commands are simple and direct ("Vote!"), but other commands contain clauses ("Remember that you have a duty to vote!"). Commands of the latter sort include statements: "Remember that you have a duty to vote!" includes the statement, "You have a duty to vote." Commands that present ethical obligations are often alternative ways of asserting that something is good, right, or ought to be done.

Finally, consider *exclamations.* Some exclamations are mere expletives ("Ugh!" "Ah!"), but other exclamations contain clauses ("How ugly that painting is!"). Exclamations of the latter sort include statements: "Oh, how the mighty have fallen!" includes the statement "The mighty have fallen."

Now, of course, there will be borderline cases, where even after careful examination we can't be sure whether something is being asserted or not. It is important not to miss any statements that are made in a discourse, but it is just as important not to read something into the discourse that isn't there. We shall take up this question of ambiguity later. Meanwhile we must recognize that the distinction between sentences that are assertive and sentences that are not assertive is basic to all clear thinking. The *first* question a critical reader asks about a discourse is this: "Exactly what statements does it make?"

A CHECK-UP QUIZ. Check the sentences that *are,* or *include,* statements. If the whole sentence is *not* a statement, underline the words that do make an assertion.

1. If the number of college graduates were to increase in the same ratio as during past years, by 1960 there

would be no more professional, executive, or managerial jobs open to them. ———

2. What shall we do now? ———
3. We are now riding along in the car, without noticing that we are being followed. ———
4. Report at 7 A. M. to take up the tasks that have been assigned to you. ———
5. Long live the king! ———
6. Wouldn't it be better to reconsider the disarmament proposals in the light of recent developments? ———
7. How difficult it is to get a clear picture of the situation! ———
8. Many are called, but few are chosen. ———
9. All aboard! ———
10. I gave her one, they gave him two,
    You gave us three or more;
    They all returned from him to you
    Though they were mine before. ———

RECOMMENDED FOR FURTHER READING: Morris Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method.* New York: Harcourt, Brace and Co., 1934, ch. 2, sec. 1.

§2. EXPOSITION AND ARGUMENT

Let us now suppose that you have put your finger on the statements in a discourse that has come to your attention. The *second* question you must ask, in order to think effectively about the discourse, is this: is it, or is it not, an *argument?*

In common speech, as in the phrase "getting into an argument," the word "argument" suggests a dispute, or a disagreement between two people. In the language of logic it is used in a more inclusive sense, as when we speak of someone "arguing for" something. This is the way we shall use the word. There is discourse that consists merely in a number of statements—for example:

> . . . . The Smoot-Hawley Tariff Act, passed in June, 1930, raised import duties on many goods considerably above the already high levels. But the Democratic Administration, which took over in

> 1933, began, in 1935, to sponsor the Hull system of bilateral trade agreements. Many of the unfortunate effects of Republican high-tariff laws were then alleviated. World trade was somewhat expanding in 1939, when the Second World War . . . .

Such discourse we shall call **"exposition."** There is also discourse in which some statements are set forth as *reasons for* other statements—for example:

> . . . . In the short run, a high tariff on high-quality shoes seems to benefit shoemakers in America by keeping British shoes out of effective competition. But in the long run, the tariff works to everyone's disadvantage. For it keeps the price of shoes higher, and therefore absorbs money which consumers could be spending on other things—money which would increase production in other goods and lower *their* price. Moreover it keeps the shoemakers employed in work that is economically unsound, when they could be making other things that the United States can produce more efficiently than other countries. . . .

In this discourse there are several statements placed in a certain relation by the words "for" and "therefore." That is, the statements that follow the word "for" are offered as reasons for the statements that precede it. Such discourse we shall call **"argument."**

Thus an argument is a discourse that contains at least two statements, one of which is asserted to be a reason for the other. To believe a statement because you think that it follows logically from another statement is to make an inference. And making inferences is what is meant by *"reasoning":* to reason is just to take one statement as a reason for another. It takes at least *two* statements to make an argument, but most of the reasoning we do is much more complicated.

One of our basic distinctions, then, will be between discourse that merely *states* and discourse that *gives reasons.* We shall use the term "exposition" in a fairly broad sense. Other classifications of discourse are sometimes made by books on rhetoric; for example, discourse is sometimes divided into "exposition," "argument," "description," and "narration." But it seems more logical, and

more useful, to let "exposition" cover all assertive discourse that is not argument. Then *description* will be a special kind of exposition: it is exposition that deals, in the main, with fairly concrete matters. Thus we describe a house, a bonfire, a girl, or a baseball game. *Narration* will be a special kind of description: it is a description of a happening or a series of happenings. Thus a *narrative* may be about a baseball game, a revolution, a courtship, or the course of a human life.

When it comes to deciding whether a given piece of discourse is, or is not, an argument, there are certain cases that can give trouble. In the first place, we have to remember that an argument, even a rather complicated one, may be put into a single sentence.

> Since it took the contractor over a year to finish the post office building, in which, moreover, the plaster shortly began to crack and the heating system to break down, it is obvious that somebody was taking graft.

To make quite clear the relations among these four clauses, we might sort them out as follows:

(1) It took the contractor over a year to finish the post office building.

And (2) The plaster (in the post office building) began to crack (shortly after it was completed).

And (3) The heating system (in the post office building) began to break down (shortly?) (after it was completed).

Therefore

(4) Somebody was taking graft.

Notice particularly two points about this argument. (1) When we separate all the clauses and turn them into independent sentences, we find that certain things are suggested but not definitely stated: for example, did the heating system break down *shortly* after completion of the building? (2) The words "since . . . . moreover . . . . it is obvious that . . . ." have disappeared, but their meaning is supplied by the word "therefore."

In the second place, there are simple arguments in which it is not explicitly stated, yet it is definitely suggested, that one statement

is a reason for another. For example: "The sky is full of dark clouds. It's going to rain." You would probably agree that this is an argument; there is an implicit "therefore" between the two statements. That brings out an important point about discourse. You might think that very little of what you read or hear is argumentative. Perhaps the word "argument" makes you think chiefly of debates, editorials, and Supreme Court decisions. But as a matter of fact, most of the discourse you run across in the ordinary affairs of life is argument. It is very hard to write *pure* exposition, as you will discover if you try it. If you are careful, you may succeed in producing a few hundred words of description or narration with no suggestion of inference. But you are reasoning when you interpret a poem, defend or attack a political proposal, explain how to run a mink farm, or criticize a play. Most writing contains argument.

In this book we shall be especially (though not exclusively) concerned with arguments. We shall want to know whether one statement is a *good* reason for another, or, to put it more carefully, *how* good a reason it is (as compared, say, with other reasons). When a reason is very good, we often say that the argument is a "*proof.*" A critical reader is one who takes pains, whenever he is reading something that matters, to find out whether or not the argument comes close to being a proof. Whenever we are asked to agree to a certain statement because we already agree to another statement—when, in short, someone is trying to convince us of something—we must always raise the question *whether the reason is such that we ought to be convinced.* That is the main theme of this book.

A CHECK-UP QUIZ. Decide whether each of the following passages is *exposition* or *argument;* put a circle around the correct label.

1. The materials of nature (air, earth, water) that remain untouched by human effort belong to no one and are not property. It follows that a thing can become someone's private property only if he works and labors on it to change its natural state. From this I conclude that whatever a man im-

proves by the labor of his hand and brain belongs to him, and to him only. (Exp Arg)

2. In accordance with the President's directive of November 2, the Committee proceeded to the scene of the disaster; it interviewed all those in any way connected with the disaster; it examined all official documents bearing on the matter at hand; it deliberated for three weeks before presenting the Report which follows. (Exp Arg)
3. We are convinced that no one could have done better than the District Attorney in this difficult matter, for he showed the highest degree of courage, tact, and intelligence throughout. (Exp Arg)
4. Of course he's guilty! Didn't he admit that he threatened to kill her? (Exp Arg)
5. It is obvious that the Administration is weary and incompetent. Anyone can see the extent of its inefficiencies. No one can doubt that it is corrupt, tired, staggering, and ready to collapse. (Exp Arg)

RECOMMENDED FOR FURTHER READING: Alburey Castell, *A College Logic*. New York: The Macmillan Co., 1935, Topic 1.

§3. GETTING THE POINT

Once you know that you are confronted by an argument, the *third* question to ask is: What is the point of the argument? To answer this question you have to decide: (1) which statements are reasons for other statements, and (2) which statements are supported by reasons. Any statement that supports another statement we shall call simply a "reason," whether it is a good reason or not. Any statement that is supported by another we shall call a "conclusion." In a long argument, some of the reasons will also be conclusions, for they will be supported by more fundamental reasons. But those reasons that are not themselves supported in the argument we shall call the *"basic reasons"* of the argument. They are the statements on which the argument rests. And those

conclusions that are not themselves used to support further conclusions we shall call the *"final conclusions"* of the argument.

The final conclusions are what the argument is driving at. They are the **point of the argument.**

Now, our language gives us a remarkable number of ways of saying that a certain statement is a conclusion, or that a certain statement is a reason for a conclusion. Whenever we find one of these little clues—which may be called *"logical indicators"*—we can be fairly sure that we are dealing with an argument, and we can locate the final conclusion. Each of the following words or phrases, for example, usually means that the statement that follows it is a conclusion:

therefore. . . .
which shows that. . . .
proves that. . . .
hence. . . .
so. . . .
indicates that. . . .
consequently. . . .
you see that. . . .
implies that. . . .
entails that. . . .
allows us to infer that. . . .
I conclude that. . . .
we may deduce that. . . .
points to the conclusion that. . . .
suggests very strongly that. . . .
leads me to believe that. . . .
bears out the point that. . . .

Each of the following words or phrases usually means that the statement that follows it is a reason:

since. . . .
for. . . .
because. . . .
for the reason that. . . .
in view of the fact that. . . .
on the correct supposition that. . . .

assuming, as we may, that. . . .
may be inferred from. . . .
may be deduced from. . . .
may be derived from. . . .
as shown by. . . .
as indicated by. . . .

This does not pretend to be a complete list of logical indicators, and if even so there seem to be rather too many, that need not discourage us. They all have their distinct uses to the writer, in special contexts, and a sensitive reader must know the differences between them. But for our present purpose, which is to find the quickest and clearest method of charting the logical course of any argument from basic reasons to final conclusions, all these various expressions may be thought of as meaning exactly the same thing. They all say that one statement logically depends upon another, and any one of them will do the work. Whenever any of them appears, it will nearly always be possible to substitute the word "therefore" and arrange the discourse in the following form:

Reason

therefore:

Conclusion

And as we go on, it will be helpful to use an arrow to symbolize the same relation:

Reason
↘
Conclusion

Whenever we are dealing with anything so flexible as the English language, the distinctions that we should like to make absolutely clear-cut have to be qualified. The words listed above do not *always* mean that one statement is a reason for another; they have other important meanings, which we shall discuss later. But they *usually* mean that one statement is a reason for another, and replacing them with "therefore" is a handy way of clarifying an argument.

One complication is introduced by the fact that, having asserted a statement in an argument, we often find it convenient to refer back to the statement by a noun phrase instead of writing it out. For example, the statement "*Since* the right to speak one's mind freely is limited only by laws of obscenity and libel, political censorship cannot be justified" may be written: "The right to speak one's mind freely is limited only by laws of obscenity and libel. *This limitation implies that* political censorship cannot be justified." Here the phrase "this limitation" refers to the whole of the preceding statement, and the argument can be set up as follows:

The right to speak one's mind freely is limited
only by laws of obscenity and libel.
↘
Political censorship cannot be justified.

Another complication appears in arguments in which the conclusion is not stated but merely suggested or implied. This is another case in which a certain amount of experience is required to draw the line between exposition and argument. The borderline case is that rambling sort of discourse in which the writer makes a number of statements but never seems to come to a point, though from hints he throws out you get the impression that he is on the verge of drawing some kind of conclusion.

> . . . . Franklin D. Roosevelt has already started to become a figure of legend. Stories are told about his love of ships and his school days at Groton. He wasn't really, in a sense, a man of the people, but a man brought up in a wealthy family. He could get along with people if he put himself out for it, but, of course, had trouble warming up Stalin. Miss Perkins thought him rather stuffy, and not at all proletarian, when she first met him as Governor of New York, though he put through many important reforms. He had an attack of infantile paralysis, which, it is said, widened his human sympathies, but. . . .

What is this passage driving at? What does it add up to? On the face of it, it is purely expository, and yet it hints that some kind of general conclusion is to be drawn from it. Shall we classify it as a

rather confused exposition or as a rather aimless argument? In such a case as this we may be baffled.

But sometimes a single and definite conclusion is clearly suggested, and, before we begin to criticize the argument, we must make sure we know exactly what that conclusion is. Another writer, drawing on the same sources, arranged his statements in this way:

> . . . . Roosevelt had no understanding of the common man, though he pretended to it. He was a demagogue who wanted nothing more than to save the capitalistic system. He made no serious attempt to fight for the rights of Negroes in the South, because of political motives, and his fitness for the Presidency must be ultimately judged in terms of this lack of human sympathy, which Miss Perkins noted. . . .

In this case, it is fairly clear that we have some sort of argument, for all the statements are pointed in one general direction. But it is easy to go off half-cocked in dealing with passages like this: to criticize the argument before we know exactly what the argument *is*.

In the end, what we want to know about an argument is whether it is a good one or not. Sometimes we can tell this at a glance; sometimes we must give it a good deal of patient study. What makes an argument good, roughly speaking, is some kind of connection between the reason and the conclusion that, when we clearly understand it, makes us see that the truth of one depends upon the truth of the other. At this stage of our discussion we cannot be more precise about this connection, but we shall find it convenient to introduce a pair of special words. It is the business of the logician to reduce the logical connections between reasons and conclusions, as far as possible, to rules. Such rules, because they tell us what kinds of argument are good and what kinds are bad, are called **"rules of inference."**

We can be sure an argument is good if we can justify its conclusion according to a rule of inference. And we can be sure that something is wrong with the argument if we discover that it violates a rule of inference. When an argument violates a rule of inference it is said to commit a **"fallacy."** A fallacious argument conforms to the rules of inference up to a point, and so, at first glance, it seems to be all right. That is why fallacies are so deceptive. But

every fallacy has its antidote; when we show up a fallacious argument, by making clear the rule of inference it violates, its power to mislead is gone. For then it *looks* fallacious.

It is quite important not to misuse the word "fallacious." A false statement is not a fallacy. We should not say, for example, "The belief that a child's sex is determined by its mother is an ancient fallacy." This belief is an ancient *error,* but it is not fallacious. Only *arguments* can be fallacious. And, roughly speaking, an argument is fallacious if it claims to conform to a rule of inference but in fact does not.

Throughout this book, then, we shall be explaining and illustrating various rules of inference, in terms of which we can give an account of what sound thinking is. At the same time we must be able to recognize unsound thinking when we run across it, and so, on our way, we shall point out a number of fallacies. But at this stage we are not yet ready to deal with them. When we are confronted with an argument, or what appears to be an argument, we should not be in too much of a hurry to say that it is good or that it is fallacious. Before we can tell whether it *makes* its point, we must be sure we *get* the point. And if the point is not clear from the argument as it stands, we must consider the argument from all angles until we can state, in our own words, what we take its implicit conclusion to be.

A CHECK-UP QUIZ. In the following passage put a circle around each logical indicator and underline each conclusion, whether final or not.

The seniority system on which the U. S. Senate operates is a strong guarantee of democracy, for it places in positions of greatest power and responsibility those best fitted to hold them. Since those who have been in Congress for the longest time presumably have had the greatest experience, and since they tend to be older and wiser than the rest, they are consequently bound to be more careful and thoughtful in the way they vote, so that they are less likely to engage in dangerous and thoughtless and reckless legislative experiments.

The system of giving committee chairmanships to those who have served longest in Congress, which is the only fair way of rewarding public service, has often been criticized by those who

think that youth is synonymous with progressive and humanitarian ideas. This is a mistake. The rightness of the system is shown by the fact that Congress has usually met the needs of the people. The system is right: it should be continued.

RECOMMENDED FOR FURTHER READING: Albert A. Bennett and Charles A. Baylis, *Formal Logic*. New York: Prentice-Hall, Inc., 1939, ch. 1, 1.1 to 1.6.

§4. THE ANATOMY OF ARGUMENT

The essence of an argument is that it makes a claim upon belief and supports this claim with a reason or reasons. To find out whether the reasons are good ones, you must take the argument apart and examine it piece by piece. But you will get the pieces mixed up if you try to carry out this dissection before you are sure of the general hang of the argument. Its logical structure forms a kind of skeletal pattern, in which each part is connected with the other parts by the relation of logical dependence. After you have identified the final conclusions of an argument, the next question to ask is this: What is the *structure* of the argument?

When you begin to trace the structure, that is, the way the statements fit together, you find that in many arguments the structure is simple and plain to see.

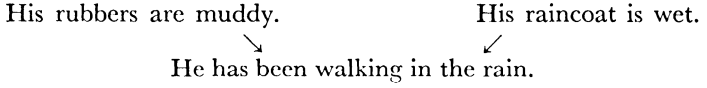
The room was sealed, and empty when we entered. Therefore, no one could have left it. And therefore, the murderer was never in the room.

The reasoning here, though a great deal is left out, has a clear and tidy pattern: it proceeds from one statement to another, from reason to conclusion. But in a very large number of arguments that come to you in classrooms, textbooks, newspapers, speeches, and casual conversations, it is not easy to see what the structure is, or it is too easy to misapprehend it. Sometimes the logical indicators are left out, or are tangled up: as in the semi-random ravings of white-hot orators, overwrought poets, and worried neurotics. Sometimes the links are there but the argument back-tracks many times, shifts gear in the middle, runs in a circle, or simply goes off in several directions, so that it is extremely difficult to put a finger on the exact

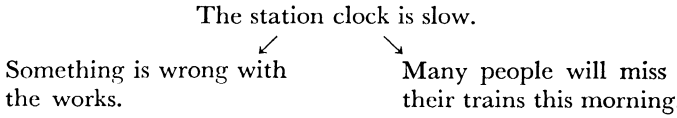
relations among statements. Of course, most arguments fall somewhere between perfect order and chaos.

To cope with any argument that is not so simple or so orderly that all relations can be perceived at once, you need a method. Though it may seem a little artificial at first, you will find this method helpful in three ways. It will acquaint you with the varieties of structure arguments have, so that you recognize them easily. It will provide you with a handy device for breaking down any argument, no matter how complicated or confused it may be. And it will remind you to take a good look at the structure of any argument *before* you start to criticize it.

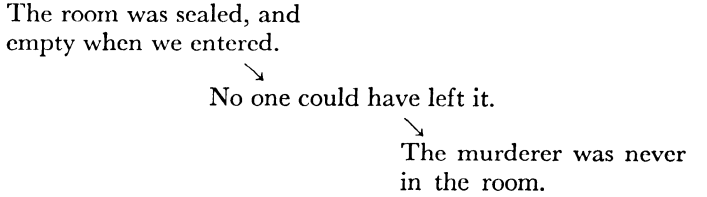
The simplest structure of argument is that in which a single reason is given for a single conclusion. For this we have already used a diagram, in which the arrow indicated the logical relation. The more complicated structures are easy to trace. In a *convergent* argument, several independent reasons support the same conclusion:



In a *divergent* argument, the same reason supports several conclusions:



An argument may be both convergent and divergent. A *serial* argument contains a statement that is *both* a conclusion *and* a reason for a further conclusion. This statement will have arrows pointing *to* it and arrows pointing *from* it, as in this example:



Again, a serial argument may be both convergent and divergent.

There are three steps in diagramming an argument.

Step I: Read it through carefully.

Though people who talk about the "social significance" of the arts don't like to admit it, music and painting are bound to suffer when they are turned into mere vehicles for propaganda. For propaganda has to appeal to the crudest and most vulgar feelings: look at the academic monstrosities produced by the official Nazi painters. What is more important, art must be an end in itself for the artist, because the artist can do his best work only in an atmosphere of complete freedom.

When you read the passage, all sorts of reactions may crowd in upon you: you may approve or object. But first things first. If you set your feelings aside for the moment, and begin by getting the structure of the argument clearly in mind, you will avoid the wastefulness of premature criticism. Don't be in a hurry to agree or disagree: first find out where the argument is going and what it starts from. Diagramming prepares the way for you to ask the *right* questions, to make the *relevant* criticisms, to discover exactly *what* you are going to agree or disagree with.

Step II: Break it down. To do this:

1. Separate the statements by brackets, and number them.
2. Put circles around the logical indicators.
3. Supply, in parenthesis, any logical indicators that are left out but clearly suggested.

Though (1) [people who talk about the "social significance" of the arts don't like to admit it,] (2) [music and painting are bound to suffer when they are turned into mere vehicles for propaganda.] (for) (3) [propaganda has to appeal to the crudest and most vulgar feelings:] (for) (4) [look at the academic monstrosities produced by the official Nazi painters.] What is more important, (5) [art must be an end in itself for the artist,] (because) (6) [the artist can do his best work only in an atmosphere of complete freedom.]

Two fairly typical problems are illustrated in this example. First, the statement numbered (4) is an imperative sentence. But it clearly contains a declarative element, and, as it functions in this argument, its force may be translated into a declarative sentence: for example, "Academic monstrosities [were] produced by the official Nazi painters." Second, the logical relation between statement (3) and statement (4) is not completely clear. But the colon often has the same meaning as the word "for," and it is safe to say that (3) is a general statement about propaganda, supported by (4), a statement about Nazi propaganda paintings in particular.

Step III: Set out the statements in a diagram in which the arrows show which ones are reasons for which. At first, write out the statements (as below); after a little practice, refer to the statements by number only.

Academic monstrosities were produced by the official Nazi painters. (4)

↘

Propaganda has to appeal to the crudest and most vulgar feelings. (3)

The artist can do his best work only in an atmosphere of complete freedom. (6)

↙

Art must be an end in itself for the artist. (5)

↘ ↙

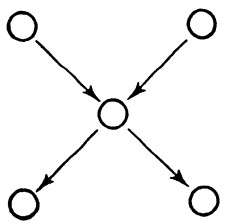
Music and painting are bound to suffer when they are turned into mere instruments of propaganda. (2)

In this example, it turns out (as it often does in a longer discourse) that there is a statement that doesn't fit into the diagram at all. Statement (1) points out that the conclusion of the argument is denied by some people, but statement (1) doesn't *support* the conclusion. If only the structure of the argument is considered, statement (1) is a side remark. A full consideration of the passage will have to deal with it, of course. But when you pare the argument to the bone, you set certain things aside for the time being. If you are dealing with a sustained argument, in an article or a book, it may be best to begin by *summarizing* the argument. You can pick out the main lines and work on them until you have them fitted together. Later you can fill in the details and see how they are connected with the main points.

The diagram, then, answers these questions at a glance: (1) What is the point of the argument? Statement (2). (2) What are the basic reasons? Statements (4) and (6). (3) What is the structure of the argument? It is serial, because statements (3) and (5) are both reasons and conclusions. It is also convergent, because (3) and (5) are both reasons for (2).

A CHECK-UP QUIZ. In the following argument the five statements are numbered. The structure of the argument is diagrammed below. Consider the logical connectives in the passage and fill in the circles in the diagram with the appropriate numbers.

(1) It is hopeless to try to get people to behave decently toward one another merely by throwing moral exhortations at them (even with music). For (2) virtue is an affair of habits, acquired by doing, and not by listening; moreover, (3) no one can keep his best New Year's resolutions, unless he changes his environment to make it more favorable to good behavior. Consequently (4) we need fewer self-appointed moralists and more social scientists, to get at the roots of evil, and (5) we need to spend a lot more money than we are spending on "the proper study of mankind."



RECOMMENDED FOR FURTHER READING: Max Black, *Critical Thinking.* New York: Prentice-Hall, Inc., 1946, ch. 1.

§5. PUTTING YOUR REASONS IN ORDER

After you have taken some arguments apart and tried putting them together in a better order, you will find yourself acquiring some principles that will be useful to you in constructing your own arguments. Suppose you are writing a criticism of a book, or a

plan for re-routing highway traffic through your city, or a request for permission to add another accountant to your office staff. The subject doesn't matter at the moment. But if it is an argument you are making, you have to let your reader know which reasons belong with which conclusions. One of your problems, as a writer, is to do this in the clearest and most economical way.

Whenever you have a number of statements to make, you can't make them all at once. You have to decide which to put first, second, third—that is, you have to put them in a *sequence*. Now, you can see from a study of other people's arguments that the sequence in which statements are set forth has a lot to do with the clarity of an argument. It determines the degree to which one can readily grasp the point and the relation of everything else to that point.

When you put your own arguments together, you find that your choice of sequence is important. You *could* put your statements in any sequence, and, with a sufficiently complicated explanation, you might manage to make the structure of your argument understandable. For example, you could put a conclusion near the beginning, and, much farther on, put down a reason for that conclusion; but then you would have to say that this reason belongs with that conclusion or many of your readers would never know it. This procedure wastes time and words. But if you put the reason close to the conclusion, it will be easy to see their relation, with only a little help from one of the logical indicators.

The principles to be kept in mind in ordering reasons and conclusions are simple but fundamental. One cannot say that you should always give your reasons first and your conclusions second, or vice versa. Your choice of sequence will depend on how you interpret the attitude of your audience. If your conclusion is already anticipated (as in a debate), it will save time to state it first and then follow with the reasons. If your conclusion may be objected to unless it is prepared for by acceptable reasons, it will be prudent to state the reasons first and then lead on to the conclusion. The correct sequence is a question of the circumstances under which you are presenting the argument.

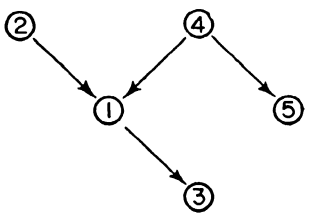
Whatever the circumstances may be, however, you should make the sequence of statements indicate the logical connections. An

orderly presentation of reasons should follow two general rules. First, there is the *Rule of Grouping.* If you have several reasons for a certain conclusion, they should be kept as close together as possible. They may *all* precede, or *all* follow, the conclusion, but *other* reasons for *other* conclusions should not be interjected. If you violate this rule, you will have a hard time keeping your reader from getting confused. Second, there is the *Rule of Direction.* If you have a serial argument, it should move in one direction, no matter which. If you say, "It's cloudy; therefore, it's going to rain; therefore, we'll get wet," your meaning is clear. But if you say, "It's going to rain, because it's cloudy, and therefore, we'll get wet," you can easily be misunderstood unless you waste words on further explanation.

The more elaborate your argument, the more important it is to follow these rules. But even in a short passage like the following one, you can see what happens when they are violated:

> Nobody in his right mind (except maybe a few of the hucksters) can deny that (1) radio programs, taken as a whole, are in a very sorry state: (2) never have we heard such depressing offerings as the singing commercial and the audience-participation program. Obviously (3) radio broadcasters need a new and better code. (4) Statistics show that most of the daylight time is taken up with soap operas, which bears out my first point, and incidentally shows (5) that broadcasters underestimate the average person's intelligence (if that is possible!).

When we diagram this argument, we get this result:



We *can* discover the structure of the argument, but it is more puzzling than it needs to be. In the first place, it violates the Rule of Grouping, for statements (2) and (4) are both reasons for (1),

but statement (3) comes between them. That is why the writer has to use the long phrase "which bears out my first point" to tell us that (4) *is* a reason for (1). In the second place, this argument violates the Rule of Direction. That is why you must stop and consider before you decide that (3) is supposed to be a conclusion from (1), not from (2). This example is an interesting one, because it is not easy to see how it is to be reorganized without violating at least one of the rules. Here is a suggestion; it is more orderly than the original, though you may be able to improve upon it:

> Radio broadcasters underestimate the average person's intelligence (if that is possible!). For statistics show that most of the daylight time is taken up with soap operas. Never have we heard such depressing offerings as the singing commercial and the audience-participation program. Clearly, nobody in his right mind (except maybe a few of the hucksters) can deny that radio programs, taken as a whole, are in a very sorry state. Radio broadcasters certainly need a new and better code.

If you follow the two rules, you will be sure that you are putting your argument into pretty good order. That is not enough to make it a good argument, but it is a considerable help to both you and your reader in making it easier to *see* whether the argument is good or not. At least, you can take your reader with you as you work forward to your point, instead of losing him along the way in a thicket of tangled words and sentences.

Outline-Summary of Chapter 1

A statement is a series of words that makes an assertion and can therefore be true or false. Usually it is either a simple declarative sentence, or a clause in a compound sentence, or a nonrestrictive clause in a complex sentence. Most discourse (spoken or written) contains statements and is either:

A. Exposition, which is a series of statements: "This is so. And that is so," or,
B. Argument, which contains statements and supports them by other statements: "This is so; *therefore,* that is so."

Thus an argument consists of:

1. One or more conclusions ("That is so");
2. One or more reasons ("This is so") for each conclusion; and
3. One or more logical connectives ("therefore") indicating that the conclusions are inferred from the reasons.

In a good argument the conclusions are drawn in accordance with a logical rule of inference; if the argument violates such a rule, it commits a fallacy.

Exercise 1

Read the following passages carefully. (1) Check the ones that are arguments. (2) In each argument underline the final conclusions. (3) If a final conclusion is suggested but not explicitly stated, write it out in your own words.

A

From Mommsen's History of Rome:

The steps by which, after the fall of Alba, Rome, now mistress of a territory comparatively considerable, and, we may venture to say, the leading power in the Latin confederacy, extended still further her direct and indirect dominion, can no longer be traced. There were numerous feuds with the Etruscans and the Veientes, chiefly respecting the possession of Fidenae; but it does not appear that the Romans were successful in acquiring permanent mastery over that Etruscan outpost, which was situated on the Latin bank of the river not much more than five miles from Rome, or in expelling the Veientes from that formidable basis of offensive operations. On the other hand, they maintained undisputed possession of the Janiculum and of both banks of the mouth of the Tiber. . . .

B

From a newspaper review:

Steinbeck's latest novel raises the question of his rank in contemporary literature, and invites comparison of him with his peers. His characters, drawn from less precise observation than Sinclair Lewis's, nevertheless are portrayed with warmth, sympathy, and understanding. Though they are three-dimensional in a way that Lewis's characters never attain, you find them somewhat over-sentimentalized.

This isn't such a fault, perhaps, as it is to ridicule and dehumanize them, as Lewis does. So Steinbeck's are more successful, and we should also note the richness of Steinbeck's style and technical virtuosity. The characters in the present work are quite various. . . .

C

From Keats:

A thing of beauty is a joy forever:
Its loveliness increases; it will never
Pass into nothingness; but still will keep
A bower quiet for us, and a sleep
Full of sweet dreams, and health, and quiet breathing.
Therefore, on every morrow, are we wreathing
A flowery band to bind us to the earth,
Spite of despondence, of the inhuman dearth
Of noble natures, of the gloomy days,
Of all the unhealthy and o'er darken'd ways
Made for our searching.

D

From John Stuart Mill:

The only freedom which deserves the name, is that of pursuing our own good in our own way, so long as we do not attempt to deprive others of theirs, or impede their efforts to obtain it. Each is the proper guardian of his own health, whether bodily, or mental and spiritual. Mankind are greater gainers by suffering each other to live as seems good to themselves, than by compelling each to live as seems good to the rest.

E

From Oliver Goldsmith:

Thus fares the land, by luxury betray'd,
In Nature's simplest charms at first array'd,
But verging to decline, its splendours rise,
Its vistas strike, its palaces surprise;
While, scourg'd by famine from the smiling land,
The mournful peasant leads his humble band;
And while he sinks, without one arm to save,
The country blooms—a garden and a grave.

Exercise 2

Show the structure of each of the following arguments by a diagram.

A

From a student's composition:

. . . . In Shakespeare's *Othello,* the character of Iago is one of extreme evil. Shakespeare is usually skillful in making his characters real and providing them with a motivation for their crimes. In *Othello,* it is suggested that he is jealous of Othello's success, fame, and wife, because Othello is a Negro, and because he (Iago) has to work under a Negro boss. And yet it is not explained very well just why Iago hates Othello so much that he goes to a great deal of trouble to undo him (which, it seems to me, indicates that the motivation is weak). I think that Iago simply likes to create havoc for the sheer fun of it, but that nobody is really like this, so Iago's character is not very true to life either, though this might be excused in a play with some other good things in it; but, anyway, that is why I say the play is not Shakespeare's best. . . .

B

From a famous funeral oration:

The noble Brutus
Hath told you Caesar was ambitious;
If it were so, it was a grievous fault,
And grievously hath Caesar answer'd it.

* * *

He was my friend, faithful and just to me:
But Brutus says he was ambitious;
And Brutus is an honourable man.
He hath brought many captives home to Rome
Whose ransoms did the general coffers fill:
Did this in Caesar seem ambitious?
When that the poor have cried, Caesar hath wept;
Ambition should be made of sterner stuff;
Yet Brutus says he was ambitious;
And Brutus is an honourable man.
You all did see that on the Lupercal
I thrice presented him a kingly crown,

Which he did thrice refuse: was this ambition?
Yet Brutus says he was ambitious;
And sure, he is an honourable man.
I speak not to disprove what Brutus spoke,
Yet here I am to speak what I do know.

* * *

Fourth Citizen: Mark'd ye his words? He would not take the crown;
Therefore, 'tis certain he was not ambitious.

C

From a sermon:

When the divorce rate goes up every year, and the crime waves come faster and faster, isn't it evident that Americans are suffering from a fundamental lack of discipline? This, in turn, is a proof that a severe moral crisis imperils our age. "Where there is no faith, the people perish." You can see this lack of discipline everywhere: in progressive educators who say that children are being taught to read too early; in churchmen who object to the discipline of military training; in adolescents who avoid regular church attendance. And there is no more conclusive evidence of the moral crisis—which has reached proportions suggesting the collapse of the Roman civilization—than the cynical selfishness of the laboring class, as evidenced by their desire to get more wages for less work. "In the sweat of thy brow shalt thou eat thy bread."

D

From an editorial:

The right to life, as set forth by the Declaration of Independence, is inalienable and inviolable, because it is the foundation of all other rights. Thus infringement of it, no matter by what means, can never be justified. Also, of course, in considering the present situation, we must remember that it is the duty of our country to preserve *all* rights as much as possible, so that, no matter how hard it is, we must keep the power of the government to a minimum. But this latter point is by the way: what is most important is that the unjustifiability of all taking of life (a point also further supported by the Christian principle that killing is against the will of God) demonstrates that the present proposals for peacetime military conscriptions are indefensible. The duty of preserving all other rights (mentioned above) bears out the same point, which cannot be too often or too strongly stated.

Exercise 3

In each of the following arguments the sequence of the statements confuses their logical connection. Rewrite each argument so as to make it as brief and orderly as you can. In some cases you will find it helpful to diagram the argument before rewriting it.

A

From a high-school student's composition:

The eclipse of the moon is an exciting thing to see, particularly on a cold, clear, cloudless night. That the earth is round is proved by the fact that the earth's shadow, which the sun casts on the moon, is round. You can see it clearly, and I used to enjoy watching it. Also, the ships you see coming toward you on the ocean show the same thing. You see their smoke stacks first, appearing above the horizon.

This is a beautiful thing to watch, too, if you are in the mood. And another good point is day and night, and the way the same sun comes back every day, which is due to the revolution of the earth every twenty-four hours (so it must be round).

B

A letter to a newspaper:

To the Editor:

Mr. Johnson's letter casting aspersions on the Citizens' Committee, which you published recently, is beneath contempt. He does not care for our report, in which we urged that the Mayor stop whitewashing the Welfare Department, and, instead, concentrate on a thorough overhauling of its personnel. I wish to refute Mr. Johnson, who doesn't know what he is talking about.

The Mayor's own figures show that the Welfare Department is spending $40 a week for every person it takes care of. Maybe these people are deserving—I know some deserving people myself—but this is a wasteful and inefficient business, obviously. The cost is too high, especially because there is indication of not only this wastefulness but deliberate fraud. You can see this in the unwillingness of the Department to allow the Committee to examine its records or talk with people on relief, and also there is the fact that the Department is using all sorts of outmoded methods of keeping records, thus taking time, energy, and money, which the city could save. After all, time is money, too—as Benjamin Franklin said.

Moreover, while we are on the subject of dishonesty, and so on,

we might mention that 30 per cent of the people on relief are in Ward 3, which is the chief support of the Mayor's party.

A Taxpayer.

C

From a popular article on psychiatry:

. . . . People don't like to admit that their behavior is largely due to the motives in their subconscious minds. But it's true. For example, there are dreams, which clearly express desires and fears that everyone tries to keep out of his mind when he's awake. And, again, there is the fact that we often find ourselves saying something we really believe but didn't mean to say because it would embarrass somebody. Why should we do this, if not because our subconscious makes us?

The point I'm making, by the way, has important consequences for government, for clearly we should not expect most people to vote in any rational way, or to know what laws are good for them. And my point is further substantiated by the fact that a good many of the things we do every day proceed from subconscious purposes that are entirely beyond our control. Finally, there are the many things which we forget but can remember under hypnosis.

Unhappy as it is, all these things indicate the impossibility of educating people to the point where they will live in peace instead of war, because of their subconscious impulses, which they can't control.

2

SOME VERBAL PITFALLS

SUPPOSE someone said:

> John is taller than Sally, *and*
> Joe is taller than John.
> *Therefore:*
> Joe is taller than Sally.

We should agree that this is a good argument. Now, suppose someone said:

> Nothing is taller than the Empire State Building, *and*
> Anything is taller than nothing.
> *Therefore:*
> Anything is taller than the Empire State Building.

This argument wouldn't fool anyone. At first glance it might strike us as something like the first argument, but when we take a second look we see that the word "nothing" doesn't behave quite like the word "John."

But suppose someone said:

> The management of an industry has the sole responsibility for keeping its plant and means of production in repair.
> The health of the workers is an indispensable means of production.
> *Therefore:*
> The management has the sole responsibility for preserving the health of the workers.

The conclusion of this argument has been much debated. Whether true or false, it is in any case not established by the argument. If we read the argument pretty fast, we might be convinced; but when we examine it carefully, we see that the phrase "means of production" shifts its meaning from one sentence to the next. In the first sentence the "means of production" are physical tools and machinery. In the second sentence the "means of production" are whatever is required to run the factory. The argument changes "means of production" in midstream, and its conclusion doesn't follow.

Most of our mistakes in reasoning depend to some extent on a loose way of using words. Bad arguments would seldom convince us if we were perfectly clear about their meaning. We shall assume, then, that we are considering a certain argument, and that we have sorted out its reasons and conclusions. We know in a general way what they are, but we can't be sure yet that we understand them exactly. That is the next point to consider. It may be that the argument, like the one above, contains a crucial word or phrase that shifts its meaning in the middle. In the present chapter, we shall take up this problem. We shall show how this kind of sloppy thinking happens, and what can be done about it.

§6. MEANING AND CONTEXT

The first thing to realize is that most of the useful words in our language have many meanings. That is partly why they are so useful: they do more than double duty. Think of all the things we mean by the word "foot" on different occasions: one of the lower extremities of the human body, a measure of verse, the ground about a tree, twelve inches, the floor in front of the stairs, paying the bill. Yet these are pretty *distinct* meanings—they don't easily get confused with one another. It is much more difficult to distinguish clearly among the different meanings that the word "equality" takes on when we are talking about equality before the law, equality of opportunity, equality of political rights, equality of aptitude, and so forth.

We can think of various meanings of some words, but we don't realize just *how* flexible language is until we look up some of the

most changeable words in a large dictionary. *Webster's New International Dictionary,* for example, distinguishes twenty-four meanings of the word "free," but there are many subtler differences that are also important (as when we speak of "free-handed," "free-born," "free association," "free will," or "free love"). The editors of *The American College Dictionary,* in their preliminary investigation of the most frequent usage, found 55 distinct meanings of the word "point," in 1,100 occurrences of the word, and distinguished 109 different meanings of the word "run."

Nor do dictionaries tell the whole story, since they do not record a meaning until it is fairly settled. But there are always in active circulation a number of important words used in different senses on different occasions. Not only slang, colloquialisms, regional variations, and technical jargon—though these are important to keep in mind—are subject to confusion. Take, for example, a word like "race," by which people may mean a national group ("the Italian race"), a group of people with a common parent language ("the Aryan race"), a group of people with a common culture ("the Anglo-Saxon race"), a religious group ("the Jewish race"), a group of people living in a geographical area ("the Mediterranean race"), or—in the strict sense—a group of people with common physiological characteristics, as discovered by anthropologists ("the Caucasian race"). All these meanings are easily, and often, confused with one another.

The task of speaking clearly and being understood would seem pretty hopeless if it were not for another very important thing about language. Though a word may have many meanings, these meanings are, up to a point, controlled by the context in which the word is used. When we find the word in a specific context—associated with the words that come before and after it in a particular discourse—we can often decide quite definitely which of the many meanings of the word is relevant. We might be puzzled if we read in a newspaper that "in the suicide's pocket the police found a large envelope full of bills." In this sentence, as it stands, the word "bills" can easily mean two quite different things. But if the context were expanded so as to read, "The police were surprised to find in the suicide's pocket a large envelope full of bills of various denominations," we should understand that "bills" meant *paper*

money. Or if the context were expanded differently, so as to read, "The explanation of the suicide was suggested by the large envelope full of unpaid bills which the police found in the dead man's pocket," we should understand that "bills" meant *requests for payment of debts.*

This is a very simple illustration of the way in which context helps to limit meaning and keep it straight. Of course, "context" is itself a rather indefinite word: it may be the rest of a sentence, a whole book, or a whole newspaper file. We all know that a word like "liberal" means something different in *The New York Times* from what it means in the *Chicago Tribune.* The headline "REDS RECEIVE SETBACK" means one thing on the front page, another on the sports page. Sometimes the meaning can be kept fairly straight merely by a phrase; but sometimes, with a word like "middle class" or "evolution," the exact meaning will depend upon the whole essay or book in which the word appears.

Everyone is aware of the importance of context in the obvious cases. One of the oldest methods of misrepresenting what another person says is to quote *part* of what he says out of its context. The words quoted are kept just as they were spoken, but they have changed their meaning, for the original meaning was partly determined by the rest of the discourse. You can make the Bible say, "There is no God," if, in quoting, you omit the first part of the sentence, "The fool has said in his heart, . . ." And there are less crude ways of making it look as though a speaker said something much sillier than what he actually did say, just by leaving something out. It is a very useful rule for careful reading to be wary of all short quotations introduced as reasons into an argument unless you can get hold of the context, remembering that it might be one that changes the meaning of the quotation in an important way.

A scrupulous writer will put in dots to indicate that words are left out when he abbreviates a quotation, but he may not be *quite* scrupulous enough to stick to the original meaning. He may not notice how much he has changed the meaning; or he may know very well what he is doing. You have seen advertisements of a new play, quoting some of the reviews. Sometimes the quotations go like this: ". . . . emotional subtlety . . . . great drama . . . .

effective characterization. . . ." But if you look up the original review, you may find something like this:

> The play has all the *emotional subtlety* of a bar-room brawl. The dialogue assaults our ears and insults our intelligence, but it is not moving, nor even plausible. No doubt it was considered a *great drama* when it was first produced in 1890, but the hands that revived it tenderly preserved its full measure of wordiness, moralizing, and cheap sentimentality. The passably *effective characterization* of the young lady whose misfortunes constitute the plot is marred by melodramatic touches which we can only attribute to careless direction and almost whimsical casting. . . .

This is a different story.

If that example seems extreme, consider one more. In its February 1950 issue, *The Reader's Digest* published a condensation of *The Road Ahead: America's Creeping Revolution,* by John T. Flynn. On the first page, the *Digest* presented some comments by reviewers, including Karl Shriftgiesser in *The New York Times Book Review* (October 2, 1949), who was quoted as saying that Flynn's book was one of the two "most important books about the contemporary American scene that we will have this year." In this excerpt the word "important" has a somewhat indefinite, though decidedly favorable, meaning. But, as *The Nation* pointed out a few weeks later, the larger context gives the word quite a different meaning. Here is the whole paragraph (the reviewer was discussing two books together):

> These two small volumes are perhaps the most important books about the contemporary American scene that we will have this year. This is not to say that they are the best books—and certainly not to say that they are the best-written books—on the subject of American politics, past and present. Neither one is an intellectual or a literary achievement of any great consequence. Their importance lies in the fact that they are the latest and most extreme manifestations of an endemic hysteria presently affecting a considerable segment of our society.

You may say that a writer who approaches his point in such a round-about way lays himself wide open to misquotation. Still, it is

pretty hard to write a paragraph that is proof against a really skillful excerpt-lifter.

But the most convincing test you can make is to try the quotation game yourself. Take the most violently pro-Soviet or anti-Soviet book you can find, or a strongly worded editorial or speech, and see how false an impression of it you can give by carefully quoting sentences and phrases out of context. When you see the results, it will help to remind you to be on your guard.

A CHECK-UP QUIZ. Consider carefully each of the following pairs of sentences. If the italicized word or phrase has the *same* meaning in both sentences, put a circle around the "S"; if a *different* meaning, put a circle around the "D."

1. (a) All *men* are created equal.
   (b) The industry made a practice of hiring only *men*. (S D)
2. (a) The proper study of mankind is *man*.
   (b) *Man* is the only animal that laughs. (S D)
3. (a) Officers and *men* traveled on the same ship.
   (b) Peace on earth, good will to *men*. (S D)
4. (a) His manner *appealed* to the audience.
   (b) The situation *appealed* to her sense of humor. (S D)
5. (a) The case was finally *appealed* to a higher court.
   (b) The candidate *appealed* directly to the voters. (S D)
6. (a) I *believe in* a federal world government.
   (b) I *believe in* woman's intuition. (S D)
7. (a) I *believe in* life after death.
   (b) I don't *believe in* ghosts. (S D)
8. (a) I don't *believe in* coddling children.
   (b) I don't *believe in* long engagements. (S D)
9. (a) I don't *believe in* child labor.
   (b) I don't *believe in* fairies. (S D)
10. (a) I *believe in* the Gallup poll.
    (b) I *believe in* Santa Claus. (S D)

RECOMMENDED FOR FURTHER READING: Hugh R. Walpole, *Semantics*. New York: W. W. Norton, Inc., 1941, chs. 1, 5. S. I. Hayakawa, *Language in Thought and Action*. New

York: Harcourt, Brace and Co., 1949, ch. 4. W. H. Werkmeister, *Introduction to Critical Thinking.* Lincoln, Nebraska: Johnsen Publishing Co., 1948, ch. 2.

§7. AMBIGUITY

From this point on, it will be convenient to use an abbreviation; instead of the awkward construction "word or phrase," we shall use the word "**term.**" Now, we have seen that a term may have many meanings, without confusing us at all. For when it turns up in a particular context, the context may give enough clues to show that only one of the term's meanings can consistently belong to it in that context. The danger of confusion appears when the context is too indefinite to rule out all but one meaning. When a term can have either (but not both) of two meanings in a certain context (and sometimes it can have any one of several meanings), we shall say that the term is "**ambiguous**" in that context.

Ambiguity is thus always relative to context; no term is ambiguous or unambiguous *in itself.* Some terms, like "freedom," "religion," "democracy," are ambiguous in a great many contexts, and that is why you have to be careful when you meet them. Sometimes such terms are said to be "meaningless." The trouble with them is just the opposite: they have so many subtly different meanings that it takes a great deal of skill—more than most writers command—to keep their meanings under control. And when a writer fails in this task, it is up to the reader.

To explore ambiguity further, and to distinguish its two varieties, we shall need a pair of terms—terms that belong together, though one of them is more familiar to you than the other. Every word can be considered from two points of view. (1) We speak of the word as *meaning* something, that is, as having a reference to something beyond itself. This is the **semantical** aspect of the word. And so far, in this chapter, it is this semantical aspect of terms that we have been talking about. In Chapter 3 we shall say more about it. (2) But we also speak of the *syntax* of the word, as when we say that it is a noun, verb, adjective, or a preposition. The syntax of the word determines the way in which the word can be correctly combined with other words in English (that it modifies

nouns, that it takes a certain case). This is the **syntactical** aspect of the word.

Every word in a language has both a semantical and a syntactical aspect, and the two are easy to distinguish. For example, when we say that the word "explode" means *to burn rapidly,* we are talking about its semantical aspect; when we say that it is both a transitive and an intransitive verb, we are talking about its syntactical aspect.

Now we can say that there are two kinds of ambiguity: semantical ambiguity (or ambiguity of meaning), and syntactical ambiguity (or ambiguity of syntax).

A term is **semantically ambiguous** in a certain context if it can have more than one meaning in that context. When its possible meanings are very different, the ambiguity is easy to detect and, in fact, is likely to be funny. A rural newspaper reports, "Authorities are puzzled by the case of whiskey left in front of the Center Church last night. No one has turned up to claim it, but Chief Brockton is working on the case." The difference between a *case of whiskey* and a *police case* is too great to lead to any confusion. But when the meanings are very similar, they are harder to distinguish, though the difference may be no less important. For example, "production" can mean both the *act of producing* and *that which is produced* (the product). Again, "to confirm" can mean "to prove," as in "His prediction was confirmed by the event"; and it can mean merely "to give further evidence for" (without necessarily proving), as in "His testimony was confirmed by other witnesses." The closer the meanings of a term, the more likely it is to give trouble by its ambiguity.

Some terms are almost wholly dependent upon a context to fix their meaning. These are *elliptical terms,* which are incomplete terms, like abbreviations. "Here" and "there" do not mean any specific place unless we know where the speaker or writer is: the immediate context has to supply this information in order to complete their meaning. The same thing is true of many other terms whose meaning includes a relationship to something else—for example, terms like "efficient," "dangerous," "internal," "free." "Efficient" can be very misleading unless a purpose is indicated; "free" is indefinite until we ask, "Free *from* what?" "Free *for* what?"

Even though a sentence contains no semantical ambiguity, it may be **syntactically ambiguous**: that is, the parts of the sentence may not be clearly and definitely fitted together. Thus there may be more than one possible way of interpreting the grammatical relationships within the sentence. This can happen in a number of ways. For example, there are misplaced modifiers: "The house was built as a present for Mrs. Driscoll, who married Dr. Driscoll in 1946, at a cost of $50,000." There are relative pronouns with more than one possible antecedent: "A moment after Mrs. Birchard christened the ship, she was afloat on the river." There are colloquial short-cuts of speech, that is, elliptical constructions: "Henry liked pudding better than his wife." Indeed, syntactical ambiguity can arise from any type of wobbly syntax.

Of course, in these examples one of the meanings is so absurd that we aren't really in doubt, but in other cases the ambiguity is complete. "Employees only may use the service elevators." Here the word "only" is placed just where its function is most uncertain, and the sentence can be read in two ways: (*a*) "*Only* employees may use the service elevators," or (*b*) "Employees may use *only* the service elevators." Compare, "Businessmen who are afraid to take risks frequently lose out to their competitors." The adverb "frequently" can modify either "take" or "lose."

When, in May 1948, the newspaper *PM* changed hands, the new proprietors set forth an opening announcement. *The New Yorker* had fun with a certain sentence in that announcement, calling it "one of those sentences that the English language is always good for—a language more treacherous than an unsprung bear trap" (May 8, 1948). The sentence ran: "*PM* belongs to the men and women of New York, and of the entire nation, who believe in the future." You can see that if the commas are so placed, around the phrase "and of the entire nation," there isn't any way of telling whether the clause that follows is restrictive or nonrestrictive. And so *The New Yorker* asked, "Does *PM* belong to those men and women (of New York and of the entire nation) who believe in the future, or does it belong to men and women, a characteristic of whom is that they believe in the future? Our hunch, chucking bear traps to the wind, is that *PM* is like a good many other news-

papers in that it belongs to the men and women who put a nickel on the line. . . . ."

Strictly speaking, an ambiguous statement is not *one* statement, but *many*—one for each of its possible meanings. That is why we can fall into loose thinking when we ask whether an ambiguous statement is true or false. Is it true that the needle of the compass points North? Yes and no. "The compass points North" is semantically ambiguous, because "North" has two senses: the *polar* North and *magnetic* North. Does three times two plus one equal nine? Yes and no. "Three times two plus one equals nine" is syntactically ambiguous; it may mean, "Three times the sum of two and one equals nine" (which is true); or it may mean, "One plus the product of three and two equals nine" (which is false).

It is a peculiarity of ambiguous statements, then, that we don't know whether they are true or false *until* we get rid of the ambiguity. This peculiarity is especially important to keep in mind when we are considering an argument. Suppose we have isolated the statement that is the conclusion of the argument; if it is ambiguous, we have not one, but several, possible conclusions. We must separate these possible conclusions from one another *before* we can decide which of them, if any, is supported by the reasons given. The same thing is true when it is the *reason* that is ambiguous: we cannot find out what the reason is *good for* until we know exactly what the reason *is*.

This is the way ambiguous language paralyzes or befuddles our thinking. But its dangers exist only for those who do not recognize it, or who do not know how to eliminate it. Whenever there is ambiguity, we must distinguish; that is the rule of safety. "Modern surgery is a miracle of science," says a magazine, "therefore, man has progressed." Is this a good argument? We cannot say, for the term "to progress" is ambiguous here. But we can distinguish: "progress" (in sense 1) means *increase in knowledge;* "progress" (in sense 2) means *increase in happiness.* Numbering the senses of the word is a good device for making the difference plain. Now, we have two distinct conclusions, and that makes two distinct arguments. We can say, "If the writer means the first, then . . . .; but if he means the second, then . . . ." The important thing is to see the difference, and not lose sight of it.

A CHECK-UP QUIZ. In each of the following sentences, (1) underline the ambiguous words, and (2) indicate whether the ambiguity is *semantical* or *syntactical* by putting a circle around the right label.

1. Our dog has a hearty appetite. He is very fond of children. (Sem Syn)
2. You have been listening to William L. Shirer, who will return at this same time next Sunday with more important news. (Sem Syn)
3. He listened quietly while the sentence was pronounced. (Sem Syn)
4. He said, Saddle me the ass. And they saddled him. (Sem Syn)
5. The skies are not cloudy all day. (Sem Syn)
6. He is an intelligent student, but he wants knowledge. (Sem Syn)
7. No one in the family cared for the white mice. (Sem Syn)
8. He has been seriously ill for a long time, but he is far from hopeless. (Sem Syn)
9. Advertisement: "PET HOSPITAL. Dogs called for, bathed, fleas removed, and returned to you for $1.00." (Sem Syn)
10. SISTERS MARRIED BROTHERS;
    HAVE BABY SAME DAY (Sem Syn)

RECOMMENDED FOR FURTHER READING: A. M. Frye and A. W. Levi, *Rational Belief*. New York: Harcourt, Brace and Co., 1941, ch. 5. M. M. Bryant and J. R. Aiken, *Psychology of English*. New York: Columbia University Press, 1940, chs. 19, 20.

§8. THE FALLACY OF EQUIVOCATION

We have said that words with many meanings readily take their specific meaning from their context. When a term appears and reappears in a long discourse, its *immediate* context is constantly

changing, and so its meaning may change with the context. The longer the discourse, the more easily this happens, and the more easily it escapes notice. A term can change its meaning even in the same sentence. In "Business is business!" the first "business" just means *buying and selling,* but the second "business" means something like *cut-throat competition.* A term can change its meaning from one sentence to the next, as in the examples given at the beginning of this chapter. But the more serious and interesting cases involve longer paragraphs.

Notice what happens to the key word in this argument:

> It is certainly not *impartial* to take sides in a dispute. Yet the Commission decided in favor of the company, and fined the union. How can it claim to be *impartial?* And how can we respect a biased judge?

This is muddy enough, but you can see that the reasoning is poor. The point of the argument is that the Commission is not impartial. But in the course of the argument, the term "impartial" evidently changes its meaning. In the first sentence, an "impartial (person)" is one who refrains from judgment. In this rather peculiar sense of the term, the only impartial person would be one who had no concern with the dispute at all. But at the end of the passage (as the word "biased" shows), an "impartial (person)" is one who makes a judgment fairly. This is perhaps the normal meaning of the term.

When such a shift of meaning happens in the reasons or conclusions of an argument, we may call it "equivocation." An equivocal argument has the general *look* of a good argument, because the use of the same word throughout helps to disguise the *difference* of meaning. But we can remove the disguise by substituting the two different translations of the word. Then the argument will look like this:

> It is certainly not *refraining from judgment* to take sides in a dispute. Yet the Commission decided in favor of the company, and fined the union. How can it claim to *make its judgment fairly?* And how can we respect a biased judge?

Now, it is perfectly obvious that the reason has nothing to do with the conclusion. There is no connection; the conclusion simply does not follow.

The *fallacy of equivocation,* then, consists in this: that in the course of an argument a term changes its meaning in such a way that the conclusion seems to follow when it doesn't. Whether or not the writer is aware of the equivocation, it is still a fallacy. If the reader is not careful, he may think that if the same *word* appears twice in an argument, it must have the same *meaning.* This is what causes the trouble. You will be able to keep clear of this "same word, same meaning" notion if you remember what we have said about words, their meanings, and their contexts.

The method for handling the fallacy of equivocation is the one we used above: distinguish the different meanings and mark each distinct meaning with a distinct term; the equivocation then disappears. What is left is a simple *non sequitur,* as childish and harmless as the argument: "Anything that goes up must come down. The moon is made of green cheese. Therefore, the moon must come down."

There is a special kind of equivocation that involves two people: we shall call it "quibbling." A *dispute* between two people is a conversation in which one of them argues *for,* and the other argues *against,* a certain conclusion. Now, suppose A gives a reason *for* a statement, using a certain term in one sense, and B gives a reason *against* the statement, using the same term in a different sense. Then B is quibbling on the term. For example:

> A *says:* "I believe in free enterprise; therefore no government interference with business should be permitted. Steel companies should be allowed to fix their rates on the basing-point system, and railroads should be allowed to set up differential freight rates, if they want to."
>
> B *says:* "I believe in free enterprise, too; therefore I conclude that the government should prohibit combinations in restraint of trade, and conspiracies by one part of industry directed at other parts, for these combinations, as in the cases you mention, dry up free enterprise."

The merits of the two arguments don't concern us here—you don't even have to know what the "basing-point system" is for our

present purpose. The point is that it looks as though A and B disagree about what is required for free enterprise; actually, they are using the term "free enterprise" in two different senses. A uses it to mean *the absence of any laws regulating private industry;* but B has shifted the meaning to *conditions of maximum competition in industry.*

Now, perhaps A and B really want to discuss the question whether or not the basing-point system and differential freight rates are for the good of the general public. But to carry on this discussion logically, they must first agree to use their terms in the same sense. If they don't, they will merely frustrate and annoy each other. B *might* say:

> "I understand that you are using the term 'free enterprise' to mean the complete absence of government regulation. I will use this term in the same way you do, in this discussion. But then I don't believe in free enterprise *in this sense:* I believe in capitalism and competition. And I think we cannot have competition between industries unless the government steps in to prevent monopolistic policies, such as the basing-point system and differential freight rates."

Now B is getting his point across, clearly, and *without* quibbling. In this case B's point is relevant and important, but sometimes when we eliminate the quibble, we find that the reply is simply beside the point. A and B are then talking about different things, and their dispute is merely verbal.

As we shall see in the course of this book, even some of the most important terms of logic—for example, "definition" and "proof"—have more than one meaning, and this leads sometimes to serious equivocation. Even these words can be misused. It is hard for a reader to be constantly vigilant about shifts of meaning, but there is no other way of being secure against confusion. With practice, you can learn to spot the places where an argument gets shifty, and from that time on you possess one of the qualifications of a critical reader.

A CHECK-UP QUIZ. Check each argument that commits the fallacy of equivocation, and underline the term that shifts its meaning.

1. Man is the highest being on the evolutionary ladder, according to biology. That's why women are inferior—because they are not men. ———

2. Only a world government can secure and maintain world peace, for as long as there are many national governments there will be rivalries and wars among them. ———

3. Anyone who puts productive machines out of commission is committing sabotage—and therefore anyone who goes on strike is committing sabotage, for he is shutting off his machine, and that puts it out of commission. ———

4. Everyone admits that cooperation is a very fine thing. Why, then, do we have antitrust laws, and laws against large industrial combinations? Aren't these big trusts simply examples of very thorough cooperation? ———

5. *Alice:* Would you—be very good enough—to stop a minute—just to get—one's breath again? *White King:* I'm *good* enough, only I'm not *strong* enough. You see, a minute goes by so fearfully quick. You might as well try to stop a Bandersnatch. ———

RECOMMENDED FOR FURTHER READING: Robert H. Thouless, *Straight and Crooked Thinking.* New York: Simon and Schuster, Inc., 1932, chs. 9, 10.

§9. VAGUENESS

While we are discussing some of the troublesome features of words, we should consider vagueness, which is quite different from both ambiguity and equivocation. We shall call a term "vague" in a special sense. Such a term must be one referring to a quality that things can have in various *degrees*: for example, a thing can be more or less heavy, tired, or stale. Such terms are **vague** when there is no general *rule* in our language to tell us *how much* of the quality a thing must have in order for the term to be applied to it. Where is the line between *fresh* bread and *stale* bread? How much hair does a man have to lose before he is *bald?* Where does *red* leave off on the spectrum and *orange* begin? We have not agreed to draw the line at any particular place, so there is no line.

A vague term, then, refers, in a somewhat indefinite way, to a

range of variations in the intensity of some quality. There will be a certain part of the scale to which the term definitely applies, as everyone agrees. And there will be another part of the scale to which the word definitely does *not* apply. But in between there will be a *doubtful area,* where we have never decided finally whether to apply the word or not: sometimes we do, sometimes we don't. The term "middle-aged" is vague (like "old" and "young"). If a person is 55 years old, he is definitely middle-aged; if he is 15, he is definitely *not* middle-aged; but what about 43? This last is in the doubtful area. The larger the doubtful area, the vaguer the term.

Vague terms are not meaningless; they are very useful. If we haven't bothered to make them precise, it may be simply because we haven't needed to do so. The trouble with a vague term—if it is *too* vague (and you see the word "vague" is itself a vague term) —is not at all the kind of trouble we get into with an ambiguous term. A vague term is useful so long as it marks *some* distinction: that is, so long as we can point out something it definitely applies to, and something it definitely does not apply to. The area of doubt may be large or small—but that doesn't make the word dangerous to use, if we remember that there *is* an area of doubt, and if we know roughly where the area lies. "Efficient," "competent," "left-wing," "reactionary," "interventionist," "weak," "strong," "clear," "confused," "good," "bad" are all vague terms, and useful ones. The people who get tangled up in these words are the ones who think there is a sharp line, say, between "intervention" and "nonintervention," when there is just a kind of no-man's-land. Of course, there is the calculated vagueness of diplomatic language: One diplomat says, "My government will strongly oppose any attempt. . . ." And others wonder how far the government will go: verbal condemnation? official protests? representations to the Security Council? withdrawal of ambassadors? economic sanctions? war? But no one is really being fooled; everyone understands that this language is just a way of avoiding definite commitments.

We can't tell whether a term is vague until we have removed any ambiguity it may contain. If it has several meanings, it may be vague in some senses but not in others. Moreover, even after

we have pinned it down to one sense and noted its vagueness, the doubtful area may shift from context to context. We all make this transition quite readily when we say that a "large" elephant is not the same as a "large" child. When we talk of elephants, "large" has its area of doubt, but that area would be expressed in tons; when we talk of children, the area of doubt is different.

We said that a term is vague if it is *generally* used without drawing a sharp line. But, of course, for particular purposes, and in particular contexts, you can usually make the term as precise as you wish. You *can* draw the line, if you have to. In common speech, the terms "urban" and "rural" are vague. But the U. S. Census, for convenience, makes its own division. If a town has a population of 2,500 or more, it is "urban"; if less, it is "rural." "High-income group" is vague, but Congress, in a particular act, may arbitrarily draw the line at $25,000. This is a perfectly sensible procedure. Of course, it will always sound odd to say that a person making $25,000 a year is in a "high-income group," whereas a person making $24,999.99 is not. But you have to draw the line *somewhere,* if you draw it at all. Where the scale is in terms of pennies, any particular place the line is drawn will seem arbitrary.

Sometimes the line drawn may, in fact, be *too* arbitrary. It does sound odd to pass a student who gets 60 and fail a student who gets 59: we don't feel sure enough about the method of grading to make such an important result depend upon such a minute difference. This is the reason some educators think that, for grading, it is better to use a vaguer scale, such as A, B, C, or Pass, High Pass, Honors. The point is that precision is relative to what you want to do with it; and this is why we have used the term "context" in a vague way. It is pedantic to be unnecessarily precise: it is like honing a razor to cut butter. Still, to develop skill in careful thinking, it is often useful to practice a little pedantry. The largest crane in the world, built by the U. S. Navy, was tested by using it to lift a 630-ton metal and concrete block and then lower it on an egg in such a way as to break the shell without disturbing the yolk. This is beautiful precision. It's not that the navy wants to break eggshells with its crane; but if the crane can do this, it can do almost anything that is demanded of it.

Making vague terms precise for special purposes always involves some arbitrariness. This fact is the source of a common and serious fallacy, which has been called the **"black-or-white fallacy."** It consists in arguing that there is *no* distinction (say, between heavy smoking and light smoking, or between freedom in one country and freedom in another), because the distinction is "only a matter of degree," or because "the line is arbitrary." It is a favorite argument of extremists; it is like denying that there is a difference between two shades of gray because the only difference that is "real" is between black and white. On a scale of cigarette smoking, or civil liberty, the *big* differences are made up of many *small* differences; but that doesn't make a big difference any less big. Even if the United States doesn't grant *full* civil rights to *all* its citizens, and hence is not lily-white, and even if the Soviet civil-liberty record is not coal-black, there is still a difference, and an important one, which no verbal trickery can smudge over. There are differences in *kind* and there are differences of *degree*: some differences of degree are, from a practical point of view, just as crucial as differences in kind.

A CHECK-UP QUIZ. Pick out and underline five quite vague uses of the term "hot" in the following sentences.

1. It was a hot August day in Washington, D. C.
2. The police were hot on the trail of a dangerous gang last seen riding in a hot car.
3. To bake popovers, you need a hot oven.
4. The water for his bath was too hot.
5. The cold war was gradually developing into a hot war.
6. After the dancing was over, the band gave us a sample of hot jazz.
7. The patient's fever had risen: her cheeks were flushed and hot.
8. The discussion was a complete failure: just a lot of hot air.
9. According to the astronomers, the sun is not one of the hot stars.
10. You told me I should read the book, but, frankly, I don't think it's so hot.

RECOMMENDED FOR FURTHER READING: L. Susan Stebbing, *Thinking to Some Purpose.* Pelican Books, 1938, ch. 12.

§10. HOW TO PIN DOWN YOUR MEANING

Being a careful reader is a good part of being a careful writer. Meanings that wobble and meanings that wriggle away from the point are fatal to good writing. But you can apply to your own writing (when you read it over) the same rules that you apply to all other discourse: you can check it to see whether it is ambiguous or equivocal. And you can pin down your own meaning for your reader whenever you see it slipping away from you.

You may be able to keep your terms in the clear by a careful attention to the whole discourse. Some words are easy to control through context. The nouns "air," "beat," and "pass" have many meanings, but their meanings are so distinct that it is hard to use these words ambiguously. And equivocation on them would probably be easy to spot. But terms like "capitalism," "love," and "essence" can be kept from ambiguity only by skill and effort. If your context can't make your meaning definite, you will have to give an explicit *definition* to guide your reader: we shall take up this problem in Chapter 6. But, short of giving a definition, there are a few rule-of-thumb devices to keep in mind.

(1) To avoid *semantical* ambiguity and equivocation, you should give examples whenever there can be doubt about your meaning. You will note that this book gives examples of every important term. Of course, an example by itself isn't much help; anything you mention may be an example of several different things. But a combination of example and explanation will often prevent the reader from taking an ambiguous term in a sense in which you don't want him to take it.

(2) *Syntactical* ambiguity may appear even if you don't violate any rules of grammar, but grammar is closely connected with clearness. If your reader (say, your employer or your teacher) interprets a sentence one way, when you thought you were writing something different, there is no use in saying that your fault was "merely a mistake in grammar"; if your grammar is dubious, it

shows that you do not know exactly what you are doing. You can't convince anyone that your thinking is good unless you can tell him what you *are* thinking. And you cannot even be sure yourself that your thinking is good until you can put your thoughts into sentences that are free from syntactical confusion.

Of course, the rules of grammar are not all based directly upon the rules of logic. It *is* logical to have a rule like the one which says that nonrestrictive clauses are to be set off by commas, but that restrictive clauses are not to be set off by commas. This rule plainly guards against syntactical ambiguity, and to disobey it is to make a mistake in thinking. But "I is hungry" is no more ambiguous than "I am hungry," and to use a verb in the wrong person is usually not to make a mistake in thinking. In short, there is a *conventional,* as well as a *logical,* element in grammar; that is, some rules of grammar rest upon a sort of arbitrary tacit agreement to put certain words together in certain ways.

Nevertheless, it is very important to realize that the conventions of grammar—even those it seems safest to violate, from the point of view of logic—are themselves based on the conditions of communication and of clear thinking. They may be compared with the "rules of the road" that govern the flow of traffic. It is a matter of convention that we drive on the right side of the road rather than on the left side, as is done abroad. Given cars with a right-hand drive, the European convention is just as good as ours, and no doubt we could get as used to it as we are to our own. But it is *not* a matter of convention that everyone should drive on the *same* side of the road: it is a matter of the greatest importance, indeed of life and death.

Similarly, it is a matter of convention that we normally put the verb between the subject and the object in English sentences. We say, "I saw him," instead of, "I him saw," as in German. But it is *not* a matter of convention *that we have a convention.* Languages differ a good deal in their grammar, but inasmuch as we are born into a living language and must communicate, in order to cooperate, with others who speak that language, we have to get some grip on its working conventions. The more flexibly and skilfully we handle them, the clearer we shall be in what we say and in what we think. And we can easily avoid most of the mistakes

of ambiguous syntax by following a simple set of rules that are explained in books on English composition and rhetoric.

The three principal rules are these: (1) Put all modifiers as close as you can to the words you want them to modify, but keep these modifiers away from other words that they *might* modify but shouldn't. (2) Use commas to keep nonrestrictive distinct from restrictive phrases and clauses, to keep parallel parts of a sentence in order, and to set off interpolations (like "I think," "as some people suppose") within a clause. If you have too many commas, use parentheses to keep interpolations from mixing up the syntax. (3) Don't take grammatical short-cuts unless you know the way: every time you use an elliptical phrase, leaving some words out, make sure your context will allow the reader to fill in for himself *only* the words you want. When you write, "Henry liked pudding better than his wife," your reader can fill in the ellipsis this way: "Henry liked pudding better than (he liked) his wife"; or he can fill it in this way: "Henry liked pudding better than his wife (did)"; your context should tell him which to do. The third rule also covers pronouns; the context, again, has to make the reference clear by providing a single definite antecedent.

Sometimes it is hard to avoid syntactical ambiguity in English, but it is never impossible. For example, the sentence "Somebody loves everybody" is clearly ambiguous, and it requires some effort to write the sentence in two different ways to separate the two meanings. It may mean, "There is at least one person who loves everybody else," or it may mean, "Every particular person has at least one other person who loves him." In the first meaning, the same person loves everybody; in the second meaning, it may be a different person who loves each particular person. Fortunately, it is rarely as difficult as this to get rid of syntactical ambiguity. In any case, there is generally a right place for a modifier, there is generally a right use of a comma, and there is generally a way of expanding an elliptical expression to the point where no one can reasonably misread it.

(3) For ambiguity of any sort, when the context is not adequate, you can always give your reader a warning: "—but I do *not* mean that!" This is a common colloquial device—and it is a device also favored by philosophers. "She has gone away—I don't

mean permanently, just on a trip." Here the speaker is aware of the possibility of misinterpretation, and he forestalls it by an explicit rejection of the alternative. If you look back over the way in which the term "argument" was introduced in Chapter 1, you will find another example. In common speech "argument" has a somewhat different meaning, which was described in Chapter 1 and then explicitly ruled out. Too much of this sort of thing can become boring, and it is sometimes merely a stop-gap device that shows laziness—in the sentence above, the speaker could simply have said, "She has gone away on a trip." Nevertheless, it is a way of keeping meaning straight, and sometimes it is indispensable.

(4) Finally, when you unconsciously fool yourself by equivocating, it is often because your discourse is rambling and disordered. Getting sentences in a wrong sequence in a paragraph, or getting paragraphs in a wrong sequence in an essay, will sometimes throw the meaning of a word or statement out of gear. If you follow the recommendations in Chapter 1 about ordering your reasons and conclusions, it will be a good deal easier to check up on your own meaning. When you put in a lot of irrelevant material between reason and conclusion, you are likely to forget the exact way you were using a given word a short while back. But if the reason and the conclusion are close together, any equivocation will be much easier to keep track of. When you find that you haven't kept the meaning straight, you may have to throw out the whole argument, or you may be able to salvage some of it. In either case, you are thinking effectively, and you are on the road to the *right* reasons for the *right* conclusion.

Outline-Summary of Chapter 2

Words make trouble for thinking (A) by having more than one meaning and (B) by having indefinite meanings.

A. Most terms (that is, words and phrases) have more than one meaning, and this may appear in three ways:

   1. A term can change its meaning from context to context, though its meaning in each context is not at all doubtful: "He *passed* the examination," "He *passed* the football," "He *passed* the car."

2. A term can change its meaning in the course of an argument: "Being blind, he could not *see;* therefore, he could not *see* my point." Such an argument commits the fallacy of equivocation.
3. A term can have either of two (or any one of more than two) meanings in the same context when the sentence in which it appears can be consistently interpreted in more than one way: "I can't *follow* you," where "follow" can mean either "understand" or "go after." In this case the sentence is semantically ambiguous.

   A sentence is syntactically ambiguous if its grammatical connections can be construed in more than one way: "They owe us more than you," where "you" can be either the subject of "do" (understood) or the object of "they owe" (understood).

B. A term that refers to a quality having degrees of intensity ("bright," "dirty") is vague if there is no general rule governing its application to borderline cases. Though vague terms are a cause of fuzzy thinking, they are useful in so far as they make some distinction, even though not a sharp one.

Exercise 4

Note the variety of meanings which the word "body" has in the following sentences (many of which are taken from Hugh Walpole, *Semantics,* pp. 35–6). Explain briefly what is meant by "body" in each sentence; then list all the distinct senses and classify them. When you finish, compare your classification with that given in the *Oxford English Dictionary.*

1. Exercise helps to keep the body healthy.
2. The oyster's body is enclosed in a shell.
3. The coroner viewed the body.
4. Put your information in the body of your letter.
5. Gin a body meet a body, Comin' thro' the rye.
6. Louis sent a left to the jaw and a right to the body.
7. The tires were flat, the mudguards twisted, and the body smashed.
8. His limbs were short, but he was very long in the body.
9. They went in a body to see the President.
10. Through association with lawyers, he has picked up a considerable body of legal knowledge.
11. The doctor said there was a foreign body in his eye.

12. Something was wrong in the body politic.
13. A body of armed men attacked the City Hall.
14. And though after my skin worms destroy this body, yet in my flesh I shall see God.
15. They spent many hours studying the heavenly bodies through a telescope.
16. I am absent in body, but present in spirit.
17. He concentrated his attention upon the body of the argument.
18. Their beer has purity, body, and flavor.
19. The Constitution provides for a Judiciary, an Executive, and a Legislative body consisting of two Houses.
20. . . . . That blessed mood,
In which the burthen of the mystery,
In which the heavy and the weary weight
Of all this unintelligible world,
Is lighten'd:—that serene and blessed mood,
In which the affections gently lead us on,—
Until, the breath of this corporeal frame
And even the motion of our human blood
Almost suspended, we are laid asleep
In body, and become a living soul. . . . .

Exercise 5

A

In each of the following sentences, the italicized term is semantically ambiguous. Distinguish clearly two meanings that it can have in its present context. You may have to rewrite the whole sentence. When in doubt, consult a dictionary.

1. She was a rather *common* type.
2. The boat was *fast*.
3. He *rents* the house.
4. The theme of his speech, and his voice, were fine, but his *expression* left something to be desired.
5. This is the exception that *proves* the rule.
6. Her recovery was surely a *miracle*.
7. People came from all over to look at the *construction*.

8. It is *society* that imposes upon us the rules of manners and decorum.
9. The rules of grammar, according to some authorities, are merely *conventional.*
10. It is *natural* for people to try to accumulate wealth.

B

Write sentences in which each of the following terms will be ambiguous.

1. hand
2. wire
3. criticism
4. argument
5. play

Exercise 6

Study the following sentences for *syntactical* ambiguity. Underline the words that are ambiguous and rewrite each ambiguous sentence in two ways, making clear the two distinct meanings involved. In rewriting, change the original sentence as little as possible.

1. There is a job for everyone to do.
2. The Rev. Mr. Jones' sermon will be on "Enduring Americanism."
3. He looked at the burglar, his eyes wide with fear.
4. All the invited people are not going to that party.
5. GOP CHANGES KILLED AID BILL
6. The gorilla is more like a man than a chimpanzee.
7. THIRD PARTY TO REJECT
   LEFT-WING AWP SUPPORT
8. While the youths danced the ceremonial rites, the old men and women stood about in a circle, clapping their hands rhythmically.
9. SENATE GROUP SET TO TRIM
   TAX CUT TO $4,600,000,000
10. The present Act applies to those newspapers competing with other newspapers which are not members of a press service.
11. According to Washington reports, changes in the bill introduced by Republicans have improved it considerably.

12. Domestic servants who are in the lower income-tax brackets will not be affected by the new community-property law.
13. We propose to admit all intelligent and interested people, whatever their race, color, creed, or sex, who are clearly needed for the work of the party.
14. Advertisement: "FOR RENT. Modern 3-room apartment, ideal for two. Married couple preferred."
15. Women alone are excluded from the Club dining room.

Exercise 7

In the following passages you are to think of B and C as each replying to what A has said. In each case, either B or C is quibbling (perhaps both). Underline the equivocal terms, and then rewrite each quibbling passage in such a way that the speaker makes the *same* reply *without* quibbling.

I

A: "I will never vote for Jones. His record is highly conservative, for he always opposes any bills which are intended to improve the lot of the working man."

B: "He is not conservative at all. A genuine conservative wants to conserve—that is, to keep everything as it is. But Jones has voted for many changes in our laws."

C: "Well, Jones is not wholly conservative, for he has voted for some bills to reform the labor laws—especially laws to keep labor leaders from tyrannizing over union members."

II

A: ". . . . And I think we have made some achievement, in bringing our educational system much closer to the ideal of a truly progressive education. We have made the schools, through their activities programs, and their cooperation with the community, a real place for children to grow in independence, intelligence, and happiness. This is education at its best."

B: "Progressive education is a false and materialistic goal; it may make children happier, it may make them better citizens, and for all I know it may be the best way to fill the world with sane, healthy, and creative men and women. But what will it do to their *souls?* Progressive as it is, it will not teach children humility before the

Eternal, sorrow for their sins, and preparation for the Other World to come."

C: "Progressive education has been a dead-end-street in American education—from which we are at last returning to the high road. To educate means to lead out of darkness and ignorance. Letting children make up their own minds about some of the things they do in school; teaching them arithmetic the easy way by playing games or visiting the grocery—this is not *leading.* In fact, progressive education is not really education at all."

III

A: "We have no business meddling in foreign affairs. We should be absolutely neutral in all civil wars abroad. That is, we must give no aid to either side; we must send them nothing. Let them strictly alone."

B: "This is nonsense. We can't possibly be neutral. If we don't help either side we are really favoring the stronger side. But it's not neutrality to favor one side over the other. Neutrality is impossible."

C: "This is nonsense. We can't possibly be neutral. If we refuse to sell goods to either side—arms and ammunition—we are refusing to help the side we want to win. This encourages the side we *don't* want to win; and encouraging the *wrong* side is certainly not neutrality. It is folly."

IV

A: "Anyone can see from the history of Communism in Russia that Communism is unalterably opposed to religion and aims to stamp it out."

B: "No, it is not. Look at the Constitution of Soviet Russia, and the pronouncements of Stalin during recent years, and you will see that the government is quite tolerant of religion."

C: "No, it is not. In fact, when you talk with Communists, and see how passionate they are; and when you consider their celebrations in Red Square, so full of pageantry, you find that Communism is *itself* a religion to its followers. How can it be opposed to religion?"

V

A: "I am one of those peculiar people who take the Declaration of Independence seriously. I believe that all men are created equal—all men, that is, not just white men, Protestants, Bostonians, or people in Dun & Bradstreet."

B: "I don't agree, because I don't believe that people are *created* at all. Human beings are the product of an evolutionary development which gives them no *natural* rights—it is only a government, a state, that can make people really equal, in the sense of Jefferson. The goal is right, but it can't be had without force."

C: "I don't agree. I have studied enough psychology, sociology, and anthropology—not to mention other things—to know that men are *not* created equal. Some are strong, some weak; some smart, some dumb; some good, some bad. That is the way they are created, and that is the way it will always be."

Exercise 8

Analyze the following arguments for the *fallacy of equivocation* and the *black-or-white fallacy*. In each case, underline the equivocal or vague term.

1. *A minor-party candidate proposed:*

Obviously we should all be better off if we had more money. One easy way to make everyone better off is to raise all wages by ten per cent; for then we would all have more money.

2. *The chairman of the committee said:*

All right. So they have come out for an amendment to the Constitution. We thought they were going to be loyal to the government, but now it's clear that they are disloyal, or they wouldn't want to change the government so fundamentally. They shouldn't be allowed to remain in the service of a government they so clearly want to get rid of. Loyalty to the democratic process is the first duty of every citizen. Disloyalty is treason.

3. *A debater said:*

I will go even farther. I am still against the U. S. Post Office, and always will be. It's the thin edge of the wedge of socialism. If the Government is in the business of carrying mail, then why not go into the business of electric power—that is, the TVA? And it's only a step farther to government ownership and control of telephone and telegraph lines—after all, how do these differ from carrying letters? And if the Government owns these, why not mines and steel mills, farms and department stores—until everything is swallowed up in socialism? There is no logical stopping-place, once you let the Gov-

ernment in. The only logical thing is to keep the Goverment completely out of everything.

4. *A popular writer argued:*

It is horrible to read about the Russian purges. We know that people were liquidated by the Soviet Government simply because they didn't agree with the Commissars in power. I abhor these purges, and I shall never cease to. But we must not let our emotions run away with us. How can we condemn the Communists without hypocrisy? Don't we have our own purges? We purge the government of people who are "subversive," we purge the labor unions of "Reds"—and Hollywood, and the schools, and what not. But if purges are evil in Russia, they are no less evil in America.

5. *An educator argued:*

It is a false idea that education should encourage independent thinking and make students "think for themselves." If students had to think things out independent of all that we know from great thinkers of the past, how far would they get? They would never know as much geometry as Euclid, as much physics as Newton, or as much biology as Darwin. We don't want them to think for themselves, but to think *rightly:* their thinking must be dependent upon the great thinkers.

6. *An essayist wrote:*

Poverty is ineradicable, as the proverb says. The poor are always with us, and they will always be. As long as anyone is free to accumulate a little more of the world's good than others, there will always be some people at the bottom of the scale: these are the poor. Even if you move them up the scale of wealth by charity, they will only leave someone else at the bottom.

What conclusion may be drawn from this? That all this talk of raising the standard of living is utopian folly—and utter nonsense. For it follows that some people must always be poor—that is, on the brink of starvation and despair. And, however we may bewail this fact, as humanitarians, not all the wisdom of Solomon can change it.

7. *A political leader said:*

I am through with expediency, compromise, half-way measures, and vague ideals: I stand for what is *right.* Americans are tired of choosing the lesser of two evils or the slightly less obnoxious of two political parties. If the good isn't different from the bad, then it's essentially

no better than the bad. But a little less evil is still an evil, and hence it is not really, in the truest and highest sense, a good. We shall take nothing but the perfect—anything else is no better than the worst.

8. *A delegate to the Convention said:*

I am sure that those who support the Committee minority proposal are sincere, but they are misguided. They want this Party to go back to a rule which long hampered its business: the rule that a President and Vice-President shall be nominated only by at least two-thirds of the voting delegates. But I say to you, Democracy is *majority-rule,* not two-thirds rule. If you abandon that great principle that the majority rules, where will you stop? There is no magic in two-thirds. If you demand a two-thirds rule, why not a three-fourths rule, or a 99-per-cent rule? Why not do as the Nazis and Russian Communists have done, and make everybody vote yes?

3

LEVELS OF MEANING

HERE ARE two different newspapers reporting the same event. One report, under a two-column headline, begins:

> The President today requested the resignation of J. J. A———, Chairman of the ———— Commission, pending the investigation of charges of malfeasance in office. The President asserted that he has complete confidence in Mr. A———, but agreed that a Congressional inquiry was desirable, in view of the importance of the post.

The other report, under a four-column headline, begins:

> Accused of betraying the public trust in his important position as Chairman of the ———— Commission, J. J. A——— was fired by the President today. The President urged the desirability of a Congressional inquiry, though he expressed the opinion that Mr. A——— would be cleared of the charges.

Both of these reports may be true, to a certain extent. They agree on some important points: that Mr. A——— has been accused, that he has been dismissed from his post, that the President regards him as innocent, that the President is in favor of a Congressional inquiry. But when we look further, we find that the descriptions are by no means identical. There is a certain amount of insinuation that lies beneath the surface, and more careful reading is required before it becomes apparent. From the second passage you would gather that the proposal for the Congressional inquiry came from the President; from the first passage, you would gather that it came from someone else. "Fired" hints at a more final sort of dismissal than "requested the resignation of." And

"expressed the opinion" makes the President's approval a good deal more doubtful than does "complete confidence." "Malfeasance in office," in the first passage, becomes "betraying the public trust" in the second. And the very order in which the statements are arranged in the second passage makes a definite presumption of Mr. A———'s guilt. If the first passage is fair and accurate, the second is a malicious lie; if the second passage is fair and accurate, the first "whitewashes" Mr. A———.

It doesn't take much skill or effort to understand in a rough way what these passages say. But a person who reads the passages and thinks that they say "about the same thing" is missing exactly the differences that are crucial for making a good judgment about what actually is happening in the case of Mr. A———. We have to rely on words, written or spoken, to find out what is going on beyond the limited circle of our direct experience, and the better we are at interpreting the meaning of those words, the more we can find out. Interpretation of meaning is a skill, and it requires practice. In the first place, you have to do a good deal of reading; but, more than that, you have to have some *principles*. The principles are what this chapter is about.

We shall need to make certain distinctions among ways in which words have meaning, and we shall need to introduce a few technical terms to mark these distinctions. The terms may be new to you, but when you learn them you will find that they are indispensable tools for understanding words. The principles of interpretation apply to any discourse, no matter what, whenever you want to know whether it is *true* or *false*. Of course, we do not read solely for truth: sometimes we indulge our fancy, or enjoy the fun of make-believe. But whenever we wish, we *can* ask whether a discourse is true, and we can set about finding out whether it is true. We begin by finding out exactly what it means.

§11. DENOTATION AND DESIGNATION

In any discussion of meaning, the first hazard is the fact that the term "meaning" itself has many meanings. Some of the meanings of "meaning" are very familiar, but do not concern us here, and we shall mention them only to make clear that we are laying them aside. In common speech, we say:

Clouds mean (*are a sign of*) rain.
When he says that, he means (*is thinking of*) me.
He says that he will do it, but he doesn't mean (*intend*) to.
If you do that, it means (*causes*) trouble.
If x equals 3, that means (*implies that*) $2x$ equals 6.
What is the meaning (*purpose*) of life?

In this book we shall resolve not to use the term "meaning" in any of these senses, but to apply it only to words.

In our general account of ambiguity in the preceding chapter, we did not need to make any distinctions among kinds of meaning. But these distinctions have to be made as soon as we try to get at the full sense of any discourse. The most basic distinction has to do with the two ways in which words *refer*. A term has reference in two directions at once: it refers to *things* (including persons and happenings), and it refers to *characteristics* of things (their qualities and relations). That is, it directs attention to things, but it also indicates what *sort* of things they are.

Consider the term "widow." This term refers to a class, or group, of things: that is, all the widows who ever lived or ever will live. This class we shall call the **"denotation"** of the term. We shall say that the term "widow" *denotes* Queen Victoria, Mrs. Roosevelt, and all other people who have been, or ever will be, widows.

But the class of widows is marked out from all other things in the world by the fact that all the things in this class (its *members*) have a certain set, or list, of characteristics that nothing else has. Thus widows, and only widows, have *all* the following characteristics: they are human, they are female, they have been married, and their husbands are dead. Anything that has all these characteristics (or "properties") belongs in the class of widows. If you want to know whether any given thing belongs in this class (that is, whether it is denoted by the term "widow"), you can check it against this list of characteristics. If it has all of them, then it's a widow; if it lacks any of them, then it's not a widow.

This list of characteristics that anything must have in order to be called a "widow" we shall call the **"designation"** of the term. (In logic books these characteristics are often called the "connotation" of the term, but we shall use this word in a more popular way, in

the following section.) We shall say that the term "widow" *designates* the characteristics of being human, being female, having been married, being one whose husband is dead.

Thus a term denotes *things* (this typewriter, that dog, those people working in the next room), and these things constitute its denotation, or *extension*. They are the things to which the term is applied, or, in other words, the things *named* by the term. Further, a term designates *characteristics* of things (whiteness, four-leggedness, having died, being a descendant of Roger Sherman). The characteristics constitute its designation, or *intension*: they are the qualities and relations of the things denoted. The word "meaning" covers both sorts of reference—to things, and to characteristics of things—but the distinction is crucially important and must be kept clear.

It would not be difficult to keep the distinction in mind if there were no further complications. But we must add three qualifications to what we have been saying. When you understand these qualifications, you will have an adequate working knowledge of denotation and designation.

In the first place, a term can designate a set of characteristics even though nothing has, or can have, all those characteristics. There never were any unicorns, and there never will be any four-sided triangles. Nothing is denoted by "unicorn" or "four-sided triangle." But these terms have a *meaning*, that is, a designation. "Unicorn" designates the characteristics, for example, of being a horse and of having one horn. And "four-sided triangle" designates the characteristics of having four sides and of having three sides. We shall say that these terms, and others like them, have a designation, but that their denotations are empty.

In the second place, there is a special kind of terms, called "*proper names*." For example:

Dr. Samuel Johnson
Philadelphia
Uncle Tom's Cabin
Arcturus
The Red Cross

These are distinguished from "*general terms*" because they denote one and only one thing (or person), whereas general terms can be

applied to a number of things. There are many *ships;* there is only one *Queen Mary.* Or, in other words, "ship" denotes a class with many members; *"Queen Mary"* denotes a class with only a single member. It is true that many people are named "John Smith," but "John Smith" is not a complete name; in a particular context (if, for example, the address is supplied) it can refer uniquely to a single individual. When we say that two people have the "same" name, we do not imply that they have any more in common than the name itself.

Though at first glance the distinction between general terms and proper names seems fairly clear, it is nevertheless a rather hard one to make, and there are several questions about this distinction that have not been settled. We shall not explore the technical difficulties, but there is one point that ought to be raised. It is often held that proper names have a denotation but do not designate; that is, that they name things without designating any characteristics of things. For example, we might say that "Napoleon Buonaparte" denotes a certain historical figure but does not refer to any characteristics of Napoleon—such as being a general, being short in stature, or being an Emperor. Then we should think of proper names as entirely arbitrary labels that may be attached at will to particular things merely for reference purposes, like the call number of a library book or the letters on a street car.

But whenever we have to assign names to a large number of things—as when we assign call numbers to books in a library—we may get into trouble unless we have some *system* for assigning them. We can name our children in a random fashion, according to our whims, without calling them "Primus," "Secundus," "Tertius," and so on, in the order in which they arrive. But a prison will follow a systematic procedure in numbering its new arrivals, and a record manufacturer in numbering his records; in these cases the numbering is not *wholly* arbitrary, for it follows a rule. In a somewhat similar way, we distinguish between girls' names and boys' names, and it may be that in such a case the name does more than simply denote. Perhaps we should say that the name "John," for example, at least designates the characteristic of being male, if we think it would be *incorrect* to give a girl this name.

This problem is quite complex, and we shall pursue it no further.

The thing for us to note, however, is that whether proper names designate or not, we must be on guard against thinking that they designate something they do not. For example, we say sometimes, in a misleading way, that "Theophilus" means *beloved by the gods,* or that "Peter" means *rock.* But this is quite a different thing from designation; in this case we are speaking of the *etymological derivation* (or original designation) of the term, not of its present designation. When we name a child "Peter," we are not stating that he is a rock, any more than calling a girl "Patience" or "Prudence" implies that she actually has these admirable virtues (though we may hope she will have them). This is just the difference between *naming* her "Prudence" (which we do even though she may turn out to be very imprudent) and *asserting* that she is prudent.

In the third place, there is an important connection between designation and denotation. If two terms have the same designation (such as the terms "widow" and "woman whose husband has died"), they must have the same denotation. For if they designate the same characteristics, there will be a unique class of things that has exactly those characteristics. But this is not true the other way around: two terms can have the same denotation but different designations. When we use the terms "President of the U. S." and "Commander-in-Chief of the U. S. Army," we denote the same person, but we designate different characteristics of that person. Does the term "biped without feathers or fur" mean the same as "animal that uses language"? This question is ambiguous: the two terms designate different sets of characteristics, but they both denote the class of human beings.

It would not be fair to leave this subject without mentioning the fact that our distinction between denotation and designation (that is, between the extension and the intension of a term) is bound up with some rather fundamental notions in logic and philosophy. Though we shall not examine these notions here, it must be confessed that many difficulties remain in them, and that when these difficulties are cleared up, our distinction may have to be made in a different way. But there is little doubt that the distinction is a very important one, and we shall use it frequently throughout this

book. That is why we have to get at least these two meanings of "meaning" straight before we go on.

A CHECK-UP QUIZ. Substitute the terms "denote" and "designate" for the term "mean" wherever it is possible to do so in the following sentences:

1. "Brachycephalic" *means* ( ) having a short, broad head.
2. In this book, "equivocation" *means* ( ) shifting the meaning of a term in the course of an argument.
3. "Ugglewump" doesn't *mean* ( ) anything in English.
4. So this is what poverty *means* ( )!
5. In Browning's poem, "The Lost Leader" *means* ( ) Wordsworth.
6. Keeping house for oneself *means* ( ) lots of hard work.
7. The name "Philip" *means* ( ) a lover of horses.
8. Lucky Strike *means* ( ) fine tobacco.
9. In civil law, "person" *means* ( ) General Electric as well as John Smith.
10. For the purposes of the present act, "dependent" shall *mean* ( ) being related to someone else and deriving one's chief means of support from that person.

RECOMMENDED FOR FURTHER READING: William Minto, *Logic, Inductive and Deductive.* New York: Charles Scribner's Sons, 1905, bk. I, pt. 1, ch. 1.

§12. DESIGNATION AND CONNOTATION

The designation of a term is a meaning of the term that has become fairly standard. It is common enough to be recorded in an unabridged dictionary. And if there are several senses in which the term is widely used, then the term has several designations. But over and above these standard meanings, a term may be capable of conveying certain nuances or shades of meaning that are more difficult to describe. These meanings are more dependent upon context, and they are less obtrusive, than designation. But they are

no less "real," and certainly no less important. When we say that the word "town" means a small populated place, we are talking about its designation; when we say that in Housman's line, "townsman of a stiller town," the word "town" means (among other things) the graveyard, then we are not talking about its designation. Such meanings as this are assigned to the **connotation** of a term. Thus, when a term refers to certain characteristics that are not strictly a part of its designation, we shall say that the term *connotes* those characteristics. Connotation is a "meaning *along with.*"

There are two lines to be drawn here, and neither of them can be very sharp. Connotation is bounded on one side by designation, though at any time we may find it difficult to tell whether a certain characteristic is designated or merely connoted. Connotation is bounded on the other side by what we may call the *"personal associations"* that each one of us comes to attach to certain words. If you were badly scared by a cow when you were a child, the word "cow" may be associated in your mind with danger and violence. But this is a private association, and you can recognize at the same time that, in the public world of language, "cow" connotes the opposite characteristics: friendliness and gentleness. Private associations may develop into public connotations in a neighborhood, region, or nation, and at any time there will be borderline meanings. But the distinction is still useful.

Connotation is brought out most clearly, perhaps, by comparing *synonyms.* Let's say that two terms are "synonymous" if there are some (we don't need to specify how many) contexts in which they have the same designation. In these contexts one can be substituted for the other without noticeably changing the meaning of the whole discourse. Thus the terms "brother" and "male sibling" are synonyms: in most books on psychology or child development we could use them interchangeably. But of course there are very few pairs of terms so much alike that one of the pair can be substituted for the other in all contexts: In "Am I my male sibling's keeper?" there is something missing. *What* is missing here is the connotation of "brother," which includes a number of characteristics that are not part of the dictionary meaning of "brother" but that are part of its full meaning in the context of Genesis. Again, people say, "It's six of one and half-a-dozen of the other." "Six" certainly

designates the same number as "half-a-dozen," but we can detect a subtle difference in meaning in some contexts: compare "six corpses" with "half-a-dozen corpses."

To get the full meaning of any discourse, we have to work out the connotations by analysis. The difference between "child-like person" and "childish person" is one that may be vital in some contexts. The whole force of an argument may depend on the characteristics connoted by the second term, but not by the first: the suggestion of retarded emotional development, of instability of mood, of inability to look beyond the present needs, of perverseness, of persistent unawareness of other people's feelings, and much more besides. There may be even more important differences of connotation among the terms "wealthy," "well-to-do," "rich," "well-off," "moneyed," "in the money," in a context that brings out the differences.

To work out the connotation of a term, we have to consider two things. First, a term may connote any characteristics that most of (not necessarily all) the members of its denotation are widely believed to have. Most paper is white: in some contexts "paper" connotes whiteness. Most athletes are believed to be above average height: tallness is not part of the designation of "athlete," but it can be connoted by the term. Second, terms pick up some of their connotation from earlier contexts. In the history of English literature, the term "bread" appears in many memorable contexts: "Give us this day our daily bread . . . . this is the bread of life . . . . cast your bread upon the waters . . . . man cannot live by bread alone . . . . a jug of wine, a loaf of bread, and thou . . . . I *do* like a little bit of butter to my bread! . . . ." And from these contexts, "bread" has acquired an enormous range of potential connotation. Not all of it will be effective in any particular context, of course; the actual characteristics connoted by the term in a given context will be those that emerge from the whole context, as the connotations of all the words clash, intersect, cancel each other out, or fuse together into a whole.

Thus a term gathers its connotation from what is known of the *things* to which it applies, and from what is recalled of the *contexts* in which it is used. For a vivid illustration of these two sources, see what Melville does with the term "white" in his chapter on

"The Whiteness of the Whale" (*Moby Dick*, ch. 42); in that chapter, the term becomes extremely rich in connotation.

Connotations are constantly changing—with the course of history and of human knowledge—and a few remarks about this part of the history of words will point up the relation between connotation and designation. Whether or not it is correct to say that proper names have a designation, it is evident that if the people who bear them behave in a way that makes for fame or infamy, the names acquire decided connotation. And if the names are used very much in contexts that emphasize this connotation, the connotations become so standard that the proper names can become general terms (losing their capitals). So we get "napoleonic," "pasteurize," "bowdlerize," "quisling." Thus the borderline between designation and connotation is not sharp, and it is not static.

Poetry is, of course, the best place to study word connotations. What makes a poem a poem (not just verse) is in part the complexity, and coherence, of its connotations. But for practical purposes, which we are keeping in view at present, you can go to advertisements (good and bad) for cruder, and simpler, examples. Think of the names chosen for industrial products and the key words in advertising slogans, and note the connotations. What is meant by the injunction to be a "Dawn girl," to have "that Creamy look," to wear a "Dentosweet smile," to develop an "English complexion"? What is hinted at by saying that a cereal is "shot from guns," that a cigaret is "toasted," that a club soda has "pin-point carbonation"? Whatever these terms may designate, it is their connotation that counts here.

There are good reasons for this. Maybe that car, that hair lotion, or that whiskey actually does have, not only the characteristics designated, but also the characteristics connoted, by the words used to describe it. But very often, of course, it does not. And if you wanted to do a subtle and legally safe job of misrepresentation —if you wanted to promise more than you can deliver without anyone's being able to hold you to the promise—you would pick your words largely for their connotation.

For a more complicated study, it is instructive to look among advertisements for terms with a scientific connotation, terms that carry with them an intimation that the product is the result of

"laboratory" research, is recommended or approved by doctors, is used by people "in the know," or contains some new, secret, marvellously effective ingredient. If you aren't a chemist, and if you haven't read impartial reports, say in *Consumers' Union,* you don't get much information (on the level of designation) when an advertisement tells you that something contains "Solium," "Solv-x," "Duratex," or "*Activated* Seismotite." Even if it gave the chemical formulas of these terms, that would mean nothing to most of us. But these terms have a strong flavor of the chemical laboratory and of industrial research, and they make a ready appeal to those who think that anything vaguely "scientific" must be good. Maybe the connotations are legitimate here; maybe seismotite (if sufficiently "activated") is an effective but harmless cleaner; that is something that can be tested. Meantime, the point is to be fully aware of connotation and its effect upon you.

A CHECK-UP QUIZ. Your problem here is to fix up the following advertising copy in two different ways. (1) Underline *twice* the word or phrase that will best give the whole discourse snob appeal, that is, choose words that connote approval by, or use by, people with pretensions to social prestige. (2) Underline *once* the word or phrase that will give the discourse the *least* snob appeal.

To be (safe, dainty, free from underarm perspiration), wherever you (go, are, may be), use (Non-Smell, Shy, Dry, Sh!, Nymph)—the (fastidious, effective, fascinating) new (underarm preparation, antiperspirant paste, body-freshener, deodorant.)

(Blended, mixed, fashioned, made) with (loving care, the personal touch, professional mastery) according to (scientific method, a secret family formula, an old recipe) by (the Henry K. Slocum Co., Henri of Fifth Avenue, laboratory experts), it is the only thing of its kind, for it *alone* contains the magic substance that ends all (worry, uneasiness, perspiration-trouble) at golf or dancing: (Laresse, Dopex, Purol, Salvarsan).

Remember, it has that (unique, exclusive, individual, special) (smell, odor, scent, fragrance)—nothing so (cheap, inexpensive, reasonably priced, easy on your pocketbook) gives you that costly perfume! (Buy some today! Accept no substitutes! Ask for it at your finest perfume bars!)

RECOMMENDED FOR FURTHER READING: Richard D. Altick, *Preface to Critical Reading.* New York: Henry Holt and Co., 1946, ch. 1.

§13. STATING AND SUGGESTING

We must now describe a more elusive sort of meaning that nevertheless makes up an important part of our discourse. Suppose I say, "I won't go unless you go." I haven't said that I *will* go if you *do;* all I have directly asserted is that I will *not* go if you *don't.* But in some circumstances, or in some contexts, you suppose (correctly) that I will go if you do. You suppose this because, if I hadn't meant this, I could have put my statement in such a way as to exclude it. I could have said, "I won't go unless you go—I'm sure of that—but I'm not saying that I *will* go if you do."

In this example, something is explicitly stated, and something else is conveyed implicitly, or *suggested,* by the statement. What is **suggested** by a sentence is anything which is not itself stated but which the reader can tell is probably *believed* by the person who makes the statement. The speaker may not actually believe it, but if he (intentionally or unintentionally) conveys the idea in words that would usually be used by people who *do* believe it, then his words suggest the idea. The fact that we can do this sort of thing with language is a great short-cut in communication. But a considerable amount of misunderstanding is caused by insensitivity to suggested meaning. That's why it is a good idea to be on the lookout for some of the commonest types of suggestion.

(1) A statement can carry with it some *implicit assumptions,* if it is the kind of statement that (usually) a person would make only if he were assuming certain other things to be true. If I say, "She is even taller than he," the understanding is that I shouldn't have used the word "even" unless I thought that *he* was pretty tall. But I haven't *stated* that he is tall. Again, notice the difference between "She is taller than he" and "He is shorter than she." Are these the same? As statements they are equivalent, but what they suggest is different. "She is taller than he" suggests that he is about normal height, but she is unusually tall; "He is shorter than she" emphasizes *his* shortness rather than *her* tallness.

(2) Statements can carry with them some *implicit conclusions*: where the inference to be drawn is considered too obvious to need mentioning, it may not itself be explicitly stated. If around midnight your host says, "I have to get up early tomorrow," you can take the hint: that is, you can draw your own conclusion. Sometimes the conclusion of an argument is put in the form of a *rhetorical question,* that is, a question that in its context suggests its own answer: "What is so rare as a day in June?" (Nothing.) "Who would take a job like *that?*" (Nobody.)

(3) The sharp juxtaposition of two or more statements can carry with it an implicit suggestion of a *connection between them,* even where no connection is stated. Have you ever seen this in a newspaper? "John Jones, 35, a white man, of 16 East St., was arrested on charges of assault and battery and breach of the peace yesterday, after a fight." No—you haven't seen this. But you *have* seen this: "John Jones, 35, a Negro, of 16 East St., was arrested on charges of assault and battery and breach of the peace yesterday, after a fight." To put in the information that Jones is a Negro suggests that this fact has some significance. It hints at a possible connection between fighting and belonging to a particular race. That kind of suggestion isn't exactly libelous—you couldn't sue the editor—but it's there. The same sort of suggestion is much more obvious in that classic refrain: "She's lovely! She's engaged! She uses ————!"

(4) A statement can carry with it (in some contexts) a kind of *implicit denial of what is left unsaid.* If I say, "*Some* people are honest," you think that I should have said "*all* people are honest" if I had believed it; so my statement suggests that some people are *not* honest. But I haven't strictly stated this. Backhanded compliments carry with them this kind of suggestion. It is particularly noticeable in spoken discourse, where the tone of voice, and the stress on certain words, get the suggestion across. It's instructive to see what you can do with even a crude example like the following one, in which the parentheses state what is suggested by the differences of stress.

We hope no fascist dictator will destroy our economy. (But *others* have different hopes.)

We *hope* no fascist dictator will destroy our economy. (But we we do not feel very confident.)

We hope no *fascist* dictator will destroy our economy. (We don't mind some other kind of dictator.)

We hope no fascist dictator will *destroy* our economy. (It's all right if he merely paralyzes it.)

We hope no fascist dictator will destroy our *economy.* (He can do as he likes with civil rights.)

A little song in *Patience,* with the refrain "He was a little boy," plays with a similar shift of stress, and with similar, but more amusing, consequences.

The social, domestic, political, and diplomatic uses of suggestion are numberless. Take as an example "white lies." You mislead someone by saying what is true if interpreted narrowly, but in such a context, or in such a tone of voice, as to suggest that it is true in a more general and important sense. "Have you had any serious illnesses?" "Bosh!" is the reply. "Never been inside a hospital in my life!" This is a sort of quibble, since it pretends to answer the question but really side-steps it. The ruse works because (*a*) the questioner takes the reply in good faith as an answer to *his* question, and (*b*) the answerer speaks in a hearty, friendly voice, giving every evidence of being cooperative. So answers the political candidate who is on the spot. "Are you in favor of the Administration's Labor Bill?" "I'm very glad you asked me, because this is one of the most important issues of the day. And I am happy to take this opportunity to state very frankly, and for the record, that I am, indeed, in favor of any legislation that will *effectively* curb the *illegitimate* powers of labor." This example is a somewhat more advanced lesson in How to Answer a Question Without Answering It. The whole thing is done through suggestion.

Then, of course, there is *irony* (with *sarcasm* as one of its varieties), which works in the same way. In this case, what is suggested conflicts with what is stated. The statement is such that its intrinsic absurdity or impossibility, or its context, or the tone of voice in which it is spoken, or perhaps the accompanying gestures indicate that the speaker really does not believe what he is stating. "But Brutus is an honorable man. . . . ." Irony also includes *understatement* ("It's easy for *you* to forget, but some people were put to-

considerable inconvenience by the Nazis"), and *overstatement* ("Oh, I realize that *you're* infallible; naturally, *you* couldn't make a mistake; you're much too wise and clever"). In such cases as these, the stress on certain words and the scornful tone help to suggest something that is opposite to, or much more than, or much less than, what is actually stated.

All these kinds of suggestion have, then, a good deal to do with the over-all quality of a discourse, its prevailing point-of-view, or what we may call its *"total impression."* Much of the attitude of the speaker or writer is conveyed in this way, and much of what he is actually telling us comes through this twilight-zone of meaning. The advantages to the deceiver are evident: he can get across implicit statements without quite letting them come out into the open where they can be inspected and criticized. But there is a way to deal with him. Whatever is suggested can almost always be stated explicitly. We can catch the suggestions, and state them ourselves. We can say, "If this is what is meant, then. . . . ." For example:

> "No doubt our administration has made mistakes—no one is perfect. Who can condemn us for being human? Look, rather, if you will be fair, at the positive side of the ledger . . . . ."

The speaker *states* that his party has made mistakes, and he *suggests* (without stating) that the mistakes have been *few*. But he doesn't dwell on it—he deftly moves on to distract our attention to something more favorable. But we can, in effect, say to ourselves (if not to him), "Hold on! Are you suggesting that you have made only a few mistakes? If you are, then what about. . . . ." In short, we can *state* what is *suggested,* and raise openly the question whether it is true or false.

A CHECK-UP QUIZ. Read the following remarks aloud to yourself. Check the *five* that seem to you *least* definitely suggestive.

1. Oh, Johnny's not very good at *arithmetic,* I admit. ———
2. The population of New York City is now increasing at a lower rate than it was fifty years ago. ———
3. Three ships were steaming slowly up the river. ———

4. The solo violinist managed to produce a recognizable facsimile of Beethoven's Violin Concerto. ———
5. This student's record shows that he is as industrious as he is intelligent. ———
6. Oh, he's a *very* honest person, he is! Sure, he would never cut anybody's throat for a mere *two bits.* ———
7. No, I think he is not well qualified to do the job we want done. ———
8. He has worked hard, and he will have to work harder, to make up the work he has lost. ———
9. A Wallace-for-President club was opened at 39 Park Avenue last evening. Park Avenue is also the address of Andrei Gromyko, Russian representative to the United Nations. ———
10. I am not, I have not been, and I shall never be, a candidate for public office. I cannot seek a nomination, or accept one, nor can I serve if elected. ———

RECOMMENDED FOR FURTHER READING: Margaret M. Bryant and Janet R. Aiken, *Psychology of English.* New York: Columbia University Press, 1940, ch. 18.

§14. SLANTING

When we consider the total impression of a piece of discourse, in all its fullness of meaning, it may turn out to be a rather complicated thing. And when we ask whether it is *true,* the answer may be complicated, too.

It will be convenient now to think of all the meanings of a piece of discourse as being on three *levels,* from the most explicit to the least explicit. Take a simple sentence, like "Jones is scrawny." On the *first* level of meaning, this sentence states that Jones has the characteristics *designated* by the term "scrawny." On the *second* level of meaning, this sentence states that Jones has the characteristics *connoted* by the term "scrawny." On the *third* level of meaning, we should put anything that is *suggested,* but not stated, about Jones by this sentence in its context.

Now, a sentence may be true on one level of meaning, but not on a higher level. This can happen in two ways. (1) The sen-

tence may be true on the level of designation, but not on the level of connotation. For example, suppose that Jones is skinny and small (these characteristics are designated by "scrawny"), but not repulsive (this characteristic is connoted by "scrawny"). Then the sentence, "Jones is scrawny" is true on the level of designation, but *not* on the level of connotation. (2) The sentence may be true in what it states, but not in what it suggests. For example, suppose that Jones is skinny and Smith is fat. Then the sentence "Jones is skinnier than Smith" is true on the level of statement, but not on the level of suggestion, for it suggests that Smith is skinny.

When a discourse contains sentences that are true on one level, but not on a higher level, and when it carries an implicit suggestion that the sentences are true on the higher level *because* they are true on the lower level, we shall say that the discourse is **slanted.** Slanting poses the hardest test of the first-rate reader. For a slanted discourse mingles truths and falsehoods in a subtle way that makes it difficult to sift out what is true from what is false. Yet this task is one that most of us are trying to do, in the best way we can, nearly every day: every newspaper, every magazine, every novel with "social significance," and every radio broadcast about current affairs presents us with exactly this problem. It would be convenient if truth and falsity always came in separate packages, each with its own label. In fact, however, they are mixed and jumbled, and we can't think straight until we know how to sort them out. A slanted statement is a kind of *half-truth,* which may be more dangerous than an "unvarnished" lie.

The best way to show how slanting works is to do a little of it here. We begin by assuming the following fact:

> Senator Z——— cast the deciding vote against universal military training.

We suppose that our readers will accept this on our authority, as reporters, but we want them to believe more than this fact. So we turn this statement into another statement that will say what this one says, but also a good deal more, and yet will pass with an uncritical reader as a substitute for this one. We first change some of the terms to other terms with similar designations but different connotations:

> Senator Z———'s thumbs-down vote quashed hopes for a citizen army.

Thus we hint (*a*) that the Senator is a little obstinate, and (*b*) that he is going against public opinion. Now we rearrange the sentence, and add a few harmless-looking phrases, to take advantage of suggestion:

> His constituents will scarcely be surprised to hear that it was Senator Z———'s thumbs-down vote that quashed hopes for a citizen army.

Thus we hint further (*c*) that Senator Z——— was mainly responsible for the failure of the bill to pass (despite the other forty-odd Senators who voted against it too). Now we have produced a statement that is very misleading, because it is true on one level but false on other levels: it is strongly slanted.

Slanted discourse has a way of nudging a reader to an implicit conclusion that is suggested but not fully stated: it is *slanted toward* this conclusion. And in slanted discourse the facts are doctored or colored in certain subtle ways in order to make the implicit conclusion seem stronger than it really is. Clearly slanting is a fallacy: there is manipulation, and there is cover-up. The techniques of slanting are numerous, and more are constantly being invented. But we can summarize them generally enough to be on guard against them. They can be divided into two groups: (A) *Selection* (including or omitting certain facts), and (B) *Distortion* (the twisting of facts by either word-connotations or suggestion).

A. *Selection.* Giving only the facts favorable to one's conclusion, and leaving out the unfavorable ones, is a time-honored technique for loading the dice. Whether it is done intentionally or unintentionally, it doesn't work well unless there is some pretense that one is being fair, objective, unbiased. There are various ways of suggesting fairness, of course. Some people say, "Now, let's be honest about this . . . ." or, "Now, let's look at the facts . . . .," and go on to give you a half-truth masquerading as the whole truth. They give you "nothing but the truth," but only after careful screening. A speaker may say, "We have received ten favorable letters . . . ." and go on talking fast, or tell a funny

story, to keep his audience from thinking that there may be fifty *un*favorable letters.

But one of the ways of covering up omissions is to put in a *few* mildly unfavorable facts and then pooh-pooh them. The speaker mentioned above later said:

> "Of course, there were unfavorable letters, too. We checked a couple of these, just to be sure, and it turned out that one writer was an ex-Socialist and another was in jail for bigamy. But—as I say—the ten favorable letters. . . . ."

It is an ancient technique to attack an opponent only on his weakest points and pretend that this refutes him.

Of course, we can't tell from a newspaper story exactly what has been left out unless we have some other way of getting at the facts. We *can*—and we *must,* if the matter is important (if it's going to affect the way we vote, or plan our family budget, or decide our profession)—find two newspapers that have different biases and omit different things; then we can put things together to make a less slanted picture. Even without being able to do this, however, we can be careful about drawing conclusions. As we read what *is* said, we ask ourselves what is *not* said; we read between the lines; and we look for little signs of covering-up.

B. *Distortion.* Even if a newspaper story gives us a true *outline* of the facts, it can twist them in important ways. We may read in one paper that someone was a "cheerful, plump, and energetic speaker, addressing a somewhat passive but huge audience," and in another paper that he was a "cheery, pudgy, acrobatic sort of speaker, addressing a good-sized but dead-pan audience." Of two reports of a theater fire giving the same facts, one may suggest that the theater-manager is to blame, the other that the fire-inspection bureau of the city administration is to blame, by the *placing* of the facts.

Perhaps the most important and pervasive kind of distortion characteristic of newspapers consists in playing up, or playing down, what is stated. The entire newspaper is arranged on a scale of importance, from the top headline on page one to the filler item under the classified ads. The size of headline-type, length of story, the column in which the story begins, the page or section—all these

help to give it a certain degree of emphasis in comparison with the rest of the paper. In the story itself every statement receives decreasing emphasis, from "lead" to final paragraph. Then repetition plays a part: some things are mentioned day after day, others only casually in a single edition. All these resources of position and size can conspire to throw out of proportion whatever the writer or editor selects for emphasis. And it is easy to lose sight of the difference between emphasizing what is important for human welfare and exaggerating what is true but not significant.

Even if a newspaper editor wishes to be honest and judicious, he can't always take time to be, and he's got to make the most of whatever happens (or can be "rumored" to happen). Hence the deep and pervasive tendency toward *hyperbole* in newspapers: the use of superlatives, shocking and exaggerated words. A disagreement between Senators becomes a "clash" in which they "assail" one another, "scoff at" or "hit" or "lash out at" or "blast" one another's ideas and personalities. A fairly widespread movement of popular support for a party candidate becomes (when the news is lean) an "avalanche" of "snowballing" votes, a "deluge" or "tide" or "surge" of support, in which letters "pour in," a "rain" or "crescendo" of enthusiasm from an "army" or "hordes" of people. One can go on forever at this. Just look over half-a-dozen newspapers and you will have the makings of a suitable vocabulary in which almost everything is described in terms whose connotations are rich in overtones of violence, shock, excitement, action, drama (or, rather, melodrama). Find six examples of the word "crisis," and ask yourself how many of these "crises" are, in the strict sense, *crises,* and how many of them are teapot-tempests, or trivial misunderstandings, or disputes, or disagreements, or differences of opinion, or diplomatic exchanges, or angry expressions of opinion, or something else. This is one way to achieve a little immunity to discourse that is full of hyperbole. But remember that even though something is played up, it may still turn out to be important and worth knowing when we play it down and get at something near the truth.

You can handle slanted discourse, then, by a thorough analysis of it on all levels of meaning. First, get the total impression (the "angle"), the general point of view. Second, take the discourse

apart to find out exactly which terms and statements contribute to that total impression through connotation and suggestion. Third, compare it with other versions of the facts, and look carefully for omissions. Then you will know what you are being asked to believe, and you can see whether the reasons are good enough to justify belief.

A CHECK-UP QUIZ. For the purpose of this quiz, assume that the following passage is an accurate report of a certain event:

> Old Mother Hubbard went to the cupboard
> To get her poor dog a bone.
> But when she got there the cupboard was bare,
> And so the poor dog had none.

Here are five headline-versions of the incident. First pick out the headline that gives the fairest version: mark it "O.K." Then pick out and label those versions that slant the story by omitting some of the facts (mark these "Sel"), or by hinting at something that is not in the original version (mark these "Dist").

1. HUNGRY DOG GETS NO BONE FROM MOTHER H. _____
2. MOTHER HUBBARD SEEKS BONE FOR DOG; FINDS EMPTY CUPBOARD. _____
3. BONE MISSING FROM HUBBARD CUPBOARD; MYSTERY UNSOLVED. _____
4. DOG-LOVER UNABLE TO CONTINUE SUPPORT OF PAMPERED PET; JUICY BONES OFF CANINE MENU IN HUBBARD HOUSEHOLD. _____
5. MEAL TIME BRINGS ONLY BARE CUPBOARD FOR ELDERLY WOMAN AND DOG. _____

RECOMMENDED FOR FURTHER READING: S. I. Hayakawa, *Language in Thought and Action.* New York: Harcourt, Brace and Co., 1949, chs. 3, 6. Richard D. Altick, *Preface to Critical Reading.* New York: Henry Holt and Co., 1946, ch. 6. Edwin L. Clarke, *The Art of Straight Thinking.* New York: D. Appleton-Century Co., 1929, chs. 12, 13.

§15. PLAIN DISCOURSE

By making sense on more than one level, discourse, so to speak, *compresses* its meaning. The more its words connote, and the more

its sentences suggest, the more rich, compact, and therefore interesting it becomes simply as a structure of interrelated meanings. In this way discourse verges upon literature, upon poetry. To work your way into the intricate structures of great poetry, in which meaning reaches a very high degree of compression, you must provide yourself with much finer and more sensitive tools than we have laid out here. We shall have more to say about meaning in the following chapter, but our distinctions and principles are only minimum equipment for dealing with such discourse as concerns you in the ordinary affairs of life. These tools are valuable for reading Westbrook Pegler or Walter Lippmann though they are not sufficient for reading T. S. Eliot or Shakespeare.

It is useful to think of a discourse in terms of the degree to which it compresses its meaning. We can thus form a rough scale, without any insinuation of praise or blame. At one pole we have the kind of poetry that yields a rich supply of connotation and suggestion: for example, Shakespeare's sonnets. At the other pole, we have the sparest and leanest sort of discourse, characteristic of much of the best philosophical and scientific prose: for example, most of the writings of Bertrand Russell. At this end, the terms are chosen and fitted together to keep down connotations, and the sentences are arranged to minimize suggestiveness. What is meant is by and large explicitly, clearly, and unmistakably stated.

Discourse that approaches the second pole, or lies in that direction of the scale, may be called *"plain discourse."* It is what we refer to when we speak of "calling a spade a spade," or "saying what you mean" (though this is ambiguous), or "coming right out with it." This book is, on the whole, plain discourse. And so is the language (when freed of jargon) of the best business letters, news broadcasts, and posted directions about what to do in case of fire. Speaking very generally, the plainer the discourse, the easier it is to avoid misunderstanding, the easier it is to keep out ambiguity and equivocation. From the hands of some very skillful writers, of course, we get discourse that is very rich in meanings but still clear. But the problem of the ordinary writer who wants to present his views or to prove a conclusion is just to be as plain as necessary, in the special circumstances, in order to be reasonably safe from confusion in his own thinking and confusion in his reader's thinking.

Many of the rules given in books on composition and rhetoric have just this purpose: they show you how to make your meaning plain when you need to. Perhaps you will have to sacrifice some of the other qualities you would like to keep: your writing may be less "vivid," less "emphatic," less "colorful" than it would be if you could compress it. But your first job is to know what you are talking about, and tell your reader. The skilled writer who works on several levels at once is like a juggler who is trained to keep his plates in the air; but the juggler *starts* with one or two. You have to learn how many you can handle without dropping any.

One of the commonest ways in which people lose control of higher-level meaning is through *elegant variation*. "If it had that effect on you, think of the result it will have on me." The writer is afraid to repeat the word "effect," so he inserts a synonym, the word "result." Yet there is no reason for the difference, and it is therefore confusing. When the writer uses the two different words, it suggests that he is insisting upon a difference of meaning, which the reader looks for in vain.

For a more complicated example, consider this:

> When two statements have the same meaning, but the first proposition is in different words from the second one, the two assertions can be considered as indicating the same thing, and for all practical purposes may be considered the same judgment.

This writer will go to any lengths to avoid using the same noun twice. So he looks up a list of appropriate synonyms, and the result (because all these terms have different connotations) is utter confusion. It would be clearer to write:

> When two statements have the same meaning, but the first statement is in different words from the second, the two statements can be considered as saying the same thing, and for all practical purposes may be considered the same statement.

This is still wordy; it would be even better to rearrange the sentence, lopping off redundancies:

> When two statements, in different words, have the same meaning, then they may, for all practical purposes, be considered as identical, since they say the same thing.

Even if you start out by writing, "In this essay, I use the terms 'liberty' and 'freedom' as synonyms," you may not be able to keep their differences in connotation from causing equivocation. Even if you write, "To me, the terms 'idea,' 'conception,' 'notion,' 'belief,' and 'thought' all mean the same thing"—this won't save you. They *don't* mean the same thing, and the connotations will run away with you. Legal documents try to make things explicit by throwing in all the synonyms at once, to cover all contingencies: "deface, mar, spoil, injure, damage, destroy, or ruin." But apparently this method does not always succeed in preventing long disputes about the meaning of those documents.

For ordinary purposes, it is much better to pick out the term that is *least misleading,* and build up the context to keep out any connotations that might make trouble. If you are aware of the connotations of the words you use, you will usually be able to keep them from distracting your reader. And when you get the reader to the point where he knows well enough what you mean by a word, don't be afraid to use the word again and again, if you want to talk about what it denotes again and again. If your essay sounds boring when you do this, something is the matter; but elegant variation won't cure it. Elegant variation won't even disguise it, for a critical reader.

Of course, there are times when you may need synonyms. Here we touch on a rather complicated problem of style, which is by no means completely solved. This book, for example, uses the terms "meaning" and "sense" in the same way in a few places. That is because "meaning" is both a noun and a verb, and there are some contexts in which it might give rise to syntactical ambiguity. Moreover, early in the present chapter, we used the term "refers to" in the same sense as "means." That is because there were some contexts in which "means" might have seemed strange before you became used to the idiom of logic. As a general rule, however, you can't expect to clarify your meaning by a loose use of synonyms. When you object to what a writer says, you can ask yourself: Does he assert, state, claim, propose, advance, believe, maintain, or defend his view? Pick the *exact* word and stick to it. If there is no exact word, you can always introduce your own special

terms, appropriated for the purpose. This method, however, raises some other problems, which we shall deal with in Chapter 6.

With care, and with attention to the principles discussed in this chapter, you can usually make your discourse as plain as it needs to be. It will take more time to write, and maybe it won't be great literature. But the question is always: What does the occasion require? If you are clear enough for the purpose at hand, and if you are fully aware of what you are saying, your thinking will at least not stumble over words.

RECOMMENDED FOR FURTHER READING: Rudolf Flesch, *The Art of Plain Talk.* New York: Harper and Brothers, 1946. Sir Ernest Gowers, *Plain Words.* New York: The British Information Service, 1949. Cleanth Brooks and Robert Penn Warren, *Modern Rhetoric.* New York: Harcourt, Brace and Co., 1949, ch. 10.

Outline-Summary of Chapter 3

To talk accurately about the meaning of a discourse it is necessary to distinguish various levels of meaning, both (A) for terms and (B) for sentences.

A. A term ("star")

1. Denotes (that is, names) individual things (Capella, Vega, Arcturus);
2. Designates the characteristics that each thing must have in order to be denoted by the term (being large, hot, gaseous);
3. Connotes other characteristics that all, or most, of the things denoted by the term are believed to have (being bright, remote, and long-lasting).

B. A sentence, over and above what it explicitly states, asks, commands, or exclaims, can suggest certain beliefs that its utterer may be inferred to have: the command "Vote for Kelsey!" suggests, though it does not state, that the utterer *wants* the hearer to vote for Kelsey.

When a true statement carries a false suggestion, or when a statement is true in what its predicate designates but false in what it connotes, the discourse in which the statement occurs is slanted. In a journalistic report the truth may be slanted by the omission of facts,

or by the distortion of facts through their exaggeration, soft-pedaling, or misleading juxtaposition.

Exercise 9

This is an exercise on connotation. Underline the correct words in the following questions. If you need help, there are two things to do: (1) look in a good dictionary, under synonyms for some of these words, for information about the distinctions between them; (2) think of passages in prose or verse where some of these words are used, and try to recall the connotations of the words in these contexts.

1. If a person is *fat* in an imposing sort of way, is he "stout" or "portly"?
2. If a person is *fat* and somewhat misshapen, is he "obese" or "fleshy"?
3. If a person is *fat* but rather sturdy, is he "corpulent" or "burly"?
4. If a person is *fat* and somewhat short and comical, is he "rotund" or "thickset"?
5. If a person is *fat* and tall, is he "plump" or "bulky"?
6. If a person is *strange* and also a little fantastic, is he "unusual" or "remarkable" or "odd"?
7. If a person is *strange,* and also a bit dubious or questionable, is he "queer" or "rare" or "eccentric"?
8. If a person is *strange* and also somewhat bizarre or uncouth, is he "outlandish" or "peculiar" or "uncommon"?
9. If a person is *strange* and also rather pleasantly old-fashioned, is he "singular" or "quaint" or "droll"?
10. If a person is *strange* because he is capricious and unpredictable, is he "anomalous" or "unnatural" or "erratic"?

Exercise 10

In this exercise, you are to suppose that the following extemporaneous remarks are made at a National Party Convention. The speaker is very serious, but he is not subtle at catching the connotations of his terms, and so in his haste he uses many terms with connotations that are damaging to his own argument. Underline these terms, and suggest substitutes for them.

Friends and delegates, I want to make a brief harangue in support of the proposal by the Committee minority, that we here, in this Convention, force through right now the two-thirds rule for nominating the President and Vice-President. I speak for a sectional group of solid Democrats from the Solid South, who want to fix it so that *no* single part of the country can dictate to the Convention. I want to explain the reason for our bias: we believe that every pressure group within the Party (not only ourselves) should have some say on who is nominated; our Southern party bosses, who have always clung desperately to the Party, are in danger of being out-voted and bested by the Northern city machines. Our Southern machines always carry their states, and you must appease us.

But I'm not merely a mouthpiece for Dixie Democrats; I have the interests and ambitions of *all* Democrats at heart. If the Convention will put over the two-thirds rule, then we can be sure that the candidates we nominate will satisfy not only one section of the country, but *most* of the country, and our man can go to the American masses with our full backing and support. . . .

Exercise 11

State, as briefly as you can, what is *suggested* by each of the following remarks:

1. Oh, Bertha's not really *ugly.* Her features are regular, and she has good teeth. I wouldn't say she was *ugly.*
2. The Senator's bill will probably not do any *harm.* I never said *that.*
3. You mustn't let anyone *catch* you cheating. That gives a *very* bad impression, and leads to trouble. Of course, it's not good to cheat, *either.*
4. She's a famous movie star. She is loved by millions. Her hair is radiant. She shampoos with Goldenglow.
5. Not *everyone* is going to be at that party.
6. Oh, sure, he's poor. He's practically starving. He only gets $50,000 a year, and when the tax collector gets through, that's hardly enough to keep him in Scotch.
7. Denying strong rumors that overtures for a personal conference with Stalin have been indirectly made to the President, a White

House aide said carefully, "No official proposals for a conference have come from Generalissimo Stalin to President Truman."

8. "Well, if you want to know my age," she tittered to the reporter, "just say I'm over 18."
9. If you want a *treat* instead of a *treatment,* smoke ———'s.
10. Mrs. Jones' relatives visited the Joneses last Friday. Mr. Jones left unexpectedly on Saturday morning.

Exercise 12

This is an exercise on slanting. Compare these two newspaper reports carefully, and answer the questions below.

A

State Capital, April 1.—Speaking gravely but firmly, retiring Governor Albert J. Paton tonight summarized his political principles at a Lions Club dinner, and bade farewell to his friends in the Reform Administration.

The keynote of his short speech was the sentence: "We have stood, and we shall stand, for keeping industry and labor free to work out their problems in their own way, whenever they can * * *." This was interpreted as a reaffirmation of the much-debated compulsory arbitration law which Governor Paton sponsored several years ago. He added that no one should be "free to spoil the common good with arbitrary or selfish powers, lockouts or strikes."

The Governor, who paused frequently at the beginning of his speech, but spoke rapidly toward the end, bowed his tall, spare frame to the sustained applause. He did not discuss his long public service, which has whitened his hair and wrinkled his face.

The full text of Governor Paton's remarks follows:

"We have stood, and we shall stand, for keeping industry and labor free to work out their problems in their own way, whenever they can—but not free to spoil the common good with arbitrary or selfish powers, lock-outs or strikes. Those who know the history of this party in this state have returned us to office again and again because we have always tried to be fair and impartial in these difficult times. Extremists from both sides have fought us tooth and nail—but the large majority have been with us down the middle path. They are still with you, thank God, and my only regret is that I'm not thirty again, and starting out all over. Good night, and good luck."

B

State Capital, April 1.—Speaking at a farewell dinner to his political cronies, out-going Governor A. J. Paton tonight lashed out with a blast against those who "spoil the common good with arbitrary or selfish powers." He defended his policies, and attacked the "extremists" of business and labor who have "fought us tooth and nail"—presumably a reference to the widespread public opposition to his famous strait-jacket arbitration law.

After some fumbling and hesitation in starting, the tall, thin figure, wrinkled and with hair bleached prematurely white by many political offices, read his speech hurriedly. His voice dropped sadly at the end, as he referred to his retirement. He said, "My only regret is that I'm not thirty again, and starting all over." The hand-picked audience applauded loudly.

The famed Paton compulsory-arbitration law was greeted by public dismay when it first appeared, but the Governor, then in full power, got it through the Legislature. Now that he has retired, those who have attacked the bill because it gives judicial and legislative powers to an appointive Commission are said to be suggesting that it be reconsidered and revised.

1. *Total impression.* How would you describe the slant of these two reports; that is, the general attitude toward the Governor and his administration,
   In A? _____
   In B? _____
2. *Connotation.* Find several pairs of approximately synonymous terms (for example, "friends" from A and "cronies" from B), and indicate briefly the important differences in connotation that contribute to the total impressions.
3. *Suggestion.* Note the chief differences in the order and arrangement of facts, and explain (briefly) how these factors contribute to the total impression.

Exercise 13

This is an exercise on slanting. Read these two newspaper reports carefully, and answer the questions below.

A

SOFT COAL MINERS CLAIM
OPERATORS BREAK WORD
ON PENSION PAYMENTS

Washington, Feb. 2.—Speaking for the 400,000 soft coal miners in the UMW, John L. Lewis today announced that bargaining with the operators had gotten nowhere, and that his union felt free "to take independent action necessary" to obtain "fulfillment of the contract." Acting according to the present agreement, which provides that either party may withdraw from it by giving thirty days' notice, the dramatic mine leader was apparently moved by pressure from within the ranks, due to the rising cost of living.

His action brought into the open a long and bitter disagreement between the UMW and the soft coal bosses, over the method of paying benefits from a pension fund set up by contract last July. The 10 per cent royalties to this fund have been accumulating, and a three-man committee representing labor, management, and public has been trying to reach agreement. The committee meetings have been secret, but it is rumored that Lewis would like benefits to be paid at the rate of $100 a month to miners over 60 who have survived twenty years of tough underground work. Report has it that the operators have been holding out for some control over the purse-strings.

Today's statement by the miners' chief, set forth as a demand for "fair treatment," apparently is designed to bring the long dispute to a head and reach a settlement. Though Lewis' announcement was ambiguous, and may mean anything from a lawsuit to a strike threat, there is no doubt that the union is anxious for a decision.

B

LEWIS THROWS QUICKIE
COAL STRIKE THREAT TO
FORCE PENSION PAYMENTS

Washington, Feb. 2.—John L. Lewis, UMW boss, today posed the threat of a sudden soft coal strike to a nation already in the grip of one of its worst fuel crises in history. His statement that he would take "independent action" against the bituminous coal operators, and denounce the present contract, spread wide fears of another series of industrial shutdowns to cripple an economy struggling back to full production after the war.

The unpredictable boss of the soft coal diggers charged that the operators have failed to live up to their agreement by refusing to hand out cash from a $5,000,000 pension fund. Lewis is reported to be demanding $1,200 a year for all members of the UMW who retire

at 60; it is rumored that the operators have asked to retain some rights to look over the disposal of the money.

Representatives of the mine management expressed surprise at the move of the bushy-browed UMW head so soon after his conviction in Federal court last year for calling an unauthorized strike, but they also expressed doubt that the threat would materialize. They said that Lewis was bluffing, that he was trying to badger them into a hasty and ill-advised settlement, which might not be to the best advantage of the workers. It was also speculated that Lewis's statement might only mean a court suit. The statement read: "The United Mine Workers of America * * * reserves the right at will to take any independent action necessary to the enforcement of the contract."

The present agreement runs until June 30. It provides that either party may terminate the contract earlier by giving thirty days' notice.

1. Describe (briefly) the *total impression* (of Lewis's statement) conveyed
   By A ———————————
   By B ———————————
2. Find several pairs of approximately synonymous terms, and indicate briefly the important differences of *connotation* that contribute to the total impressions.
3. Note (briefly) several statements that are made in A but not in B, and in B but not in A, and explain briefly how the *selection* of these facts contributes to the difference of total impression.

Exercise 14

In this exercise you do the slanting yourself. Here is a list of facts. Read them carefully (the directions are given below).

1. After price controls were removed by the Federal Government, at the end of World War II, there followed a period of steadily rising prices, which most people called "inflation."
2. The term "wage-price spiral" was widely used to describe a process in which wages (in many industries) and prices (for the most part) forced each other up.
3. On November 17, 1947, President Truman sent an "anti-inflation" message to Congress, predicting that inflation would end in a "crash" and "depression," and asking for a reinstatement of partial price control.

4. Congress rejected almost all the President's proposals for checking inflation, and continued to reject the President's further requests.
5. The Republican party had a majority in both houses of Congress.
6. On February 3, 1948, the New York Stock Exchange had a sudden burst of selling, which brought stock prices significantly down for the first time in many months. On the same day, grain futures and other commodity prices dropped their permissible limits for one day in Chicago, Minneapolis, and Kansas City. The same thing happened the following day.
7. Many people said that this sudden price drop showed that the market would take care of itself, that inflation was ending, that price controls were now unnecessary, that Congress and its leaders had been vindicated.
8. None of the experts could explain the sudden drop: some said the top of the spiral had been reached; others said it was a "healthy adjustment of the price structure"; Dr. Edwin G. Nourse, head of the President's Council of Economic Advisers, said the behavior of the market was "dramatic," but would make no suggestions or predictions until his staff had studied the situation.
9. On February 5, the President met his press conference, and said, without allowing himself to be directly quoted, (*a*) that he could not explain the price drop, (*b*) that he did not think inflation had stopped, (*c*) that price controls were still essential, and (*d*) that Congress should not continue to ignore his proposals of November 17, 1947.

Your job is to report the press conference of February 5, writing it as a news story. You must sketch in the background, and you must get into your report *all* the facts listed above.

You may give your report *either* of the following slants: (1) You can make it sympathetic to the President's point of view: that the sudden and unexpected break in prices does not make price control unnecessary, though many people will think that it does. (2) You can make it sympathetic to the point of view of Congress: that the break in prices is a vindication of the policy of avoiding price control.

Slant your report as definitely, but as subtly, as you can. Choose your synonyms for the connotations you need; construct your sentences and paragraphs so that they will win the reader to the point of view you have chosen; arrange the facts so that they will suggest what you want them to suggest.

4

FIGURATIVE LANGUAGE

TAKE UP A BOOK, or article, on education—or start yourself thinking about that subject by asking yourself some questions. What good is it? Should everyone go to school to the limit of his capacities? Should private and parochial schools be given financial help by the Government? . . . . The chances are that you won't read far, or think long, without comparing education, consciously or half-consciously, with something else. Is an education like other things that you believe everyone has a right to? Are the skills and talents of American citizens like natural resources, which ought to be conserved? Is knowledge like tools, or like money, or like a hobby?

This tendency to make comparisons is a fact worth noting about the way we think. Education, for example, is a complicated process, of which we know much less than we should like to know. And when we study a complicated process, we are apt to begin by setting aside some of its complexities. We try to see what light we can throw on it by comparing it with another process we think we understand better. We simplify. If we did not, it is hard to see how we could come to understand anything.

Moreover, such comparisons often fix themselves in the very language we use. Many of the words and phrases that come to mind when we think about education embody comparisons that were made long ago. We speak of education in a number of different ways: (1) eating and drinking: "the omnivorous reader," "undigested facts," "crumbs of information," "ruminating," "swallowing the story whole," "drinking of the Pierian spring"; (2) writing on blank paper or a tablet: "inscribed on the memory," "impressed on the mind," Locke's *"tabula rasa";* (3) piling up

goods in a warehouse or store: "his mind was well stocked," "taking inventory of his knowledge," "loads of learned lumber in his head"; (4) mining: "digging out information," "delving into philosophy"; (5) going on a journey: "adventures of ideas," "traveling in the realms of gold." And there are many others.

These terms are borrowed from simpler activities of human beings and applied to education. At first such a borrowed term may help us to focus upon an important aspect of the process. Thus we may say that one's personality is "molded" by his schooling, because we see that it makes him more of a definite person than he was: it "shapes" his personality, for good or ill. But once we use the term "molded," our thinking will be partly guided by the comparison of teacher with sculptor. And this can easily lead to a serious mistake, if it makes us think that the student is or should be as passive as the clay.

In this chapter, therefore, we must reckon with an important characteristic of language: its power to evoke in our minds the vivid recollection of our sensory experience, the pictures, smells, tastes, sounds, and touch sensations of our waking life. Language does this when it is *concrete,* that is, when it is rich in images.

An *image* is a term that designates characteristics that we can experience by our senses. "Red," "dark cloud," and "pretty girl" are images, because some of the characteristics of these things we can know by direct perception. But "atom," "government," and "civil rights" are not images: these things are conceived, but they are not sensed.

Of course we can think, and we can understand words, *abstractly* —that is, without imagining concrete things and happenings. And the actual memories that appear to the mind when a word is spoken or heard vary greatly from person to person. When you hear the word "horse," perhaps you imagine a white horse whereas the speaker imagines a brown one; but you won't get into trouble as long as the two horses both satisfy the designation of the term (in having four legs, for example), and as long as you both get the same connotations from the term in its context. The difference in imagination will not hurt your thinking or hinder your communication, if you keep your thinking from being dominated and controlled by these private little pictures. But images can trip the

unwary thinker, whether writer or reader, by leading him to wander into interesting but irrelevant thoughts. And so in this chapter we shall look over the principles that will help you manage them, in your ordinary reading and writing.

§16. SIMILE AND METAPHOR

Images become involved in our thinking (for better or for worse) when they enter into what are commonly called *"figures of speech."* A figure of speech consists in a comparison between two things, which we may label "X" and "Y." Generally one of the things, say X, is the one we are saying something about, and the X-term (or **primary term**) denotes the thing *to which* some other thing is compared. In a figure of speech we say something about X by comparing Y *to* it; the Y-term (or **secondary term**) denotes the thing which is compared to X. In "love is blind," "love" is the primary term and "blind (person)" is the secondary term. Or when H. G. Wells says that the brain of man is a "food-getting instrument, like the snout of a pig," "brain" is the primary term and "snout of a pig" is the secondary term. When the figurative statement is elliptical, we have to supply part of the terms ourselves.

All figures of speech are comparisons, but not all comparisons are figures of speech. To begin with a simple example, we may say that "James was as angry as a hornet" is figurative, but that "James was angry as John" is *not*. It is not hard to see that there is a difference here, but it is impossible to state the difference exactly without using highly technical language. James and John are evidently much more alike than James and the hornet, for James and John both belong to the same biological species. Thus James and John can *both* be angry, in the same sense of the word. But James and the hornet *cannot* both be angry in the same sense of the word: the hornet doesn't feel the same way, and he doesn't behave the same way. He can't get red in the face or stamp his feet with rage: he can only zoom, buzz, and sting.

Thus there is a distinction between a comparison that is figurative and one that is not figurative, but the distinction is one of degree. Suppose you compare the human heart with a goat's heart, a pump, and a television relay. There is a greater difference between a human heart and a pump than there is between a human heart and a goat's heart. And there is a greater difference between a

human heart and a television relay than there is between a human heart and a pump. If the difference is great enough, in a particular case, we say that the comparison is figurative. But "The heart is a pump" is a borderline case: it is figurative in some contexts, but not in others.

It is not possible, or necessary, for ordinary purposes, to be very precise about this distinction. The important thing is the degree of difference between the two things compared. When you want to understand a comparison clearly, there are three things to do. First, identify clearly the two terms of the comparison. Second, consider the chief points of likeness and of unlikeness between the two things. And third, examine the context in which the characteristics of the things are stressed. If the two things are *unlike* in some important way that is indicated by the context, then it is reasonable to say that the comparison is figurative.

The teacher of literature, who is skilled in dealing with highly figurative language, must make a number of distinctions. There are, for example, similes, metaphors, analogies, parables, tropes, myths. And besides these there are various technical terms of rhetoric for more special kinds of figure: as when we speak of a thing as a person ("personification"), a part as a whole ("synecdoche"), or one thing as another that is associated with it ("metonymy"). These distinctions are useful for analyzing certain kinds of discourse, but in the present chapter we are concerned with more general features of discourse. Yet there is one fundamental distinction that any critical reader must make: that is the distinction between a *simile* and a *metaphor*.

A simile is an explicit figurative comparison: that is, it is a statement that one thing is like another. Thus it contains a comparative word: "like," "as," "similar," or "same." And we may distinguish further between two kinds of similes: *closed similes* and *open similes*. Compare these two excerpts from a description of international political developments in the summer of 1949:

(1) "The international situation was *as tense as* a ball-game tied up in the ninth inning." (*Closed simile.*)

(2) "The international situation was *like* a ball-game tied up in the ninth inning." (*Open simile.*)

In both of these figures we have a primary term ("the international situation") and a secondary term ("a ball-game tied up in the ninth inning"). But the first figure not only compares the two things; it specifies the *respect* in which they are compared (the one was "as tense as" the other). Similes that do this we shall call **"closed similes."**

An **open simile** is one that makes no mention of the respect, or respects, in which the two things are to be compared. Thus an open simile, by itself, doesn't give any definite information. It puts us in a frame of mind to note the points of likeness, but it leaves us in suspension. We have to search the context of the simile for an indication of the points of likeness that are relevant to the subject under discussion. *Any* two things are alike in *some* respects: the question is, what are the important, and relevant, respects? Perhaps the writer means that in the international situation the watchers were divided into two hostile groups, or perhaps he means that most people were fearful of the outcome, or perhaps he means that the suspense was likely to continue for some time. The simile, *by itself*, is noncommittal; its specific reference must be supplied by the context.

Thus an open simile is likely to be vague if it is not carefully handled. It might mean a good deal, or it might mean very little. When a poet says that "the evening is spread out against the sky/ Like a patient etherized upon a table," we must hold the terms of this comparison in mind until the rest of his poem tells us *how* the two things are alike. The same principle applies to similes when they occur in ordinary discourse.

When the words "like" and "as" are dropped out of a figure, and the primary and secondary terms are jammed together, the figure becomes a *metaphor*. A metaphor does not *state* a comparison, but it *suggests* a comparison. The reporter quoted previously went on to say:

> The diplomats made errors, and a few hits, but neither side scored. Everybody muffed the ball, and the peoples of the world breathlessly watched their chosen leaders swinging at wild curves as the international struggle dragged on.

Here is a whole string of metaphors, but take just one: "their

chosen leaders swinging at wild curves." Y (a batter vainly trying to hit a badly pitched curve) is compared to X (a national leader dealing with an international crisis). But when we put this situation in the form of a statement, "Their chosen leaders swung at wild curves," we see that the metaphor is elliptical, for part of the comparison is left out.

The full meaning of a metaphor depends upon the context; without its context, it may only be a fragment. But the metaphor can stand by itself, in a way that the open simile cannot, and its relation to its context is just the opposite. With a simile, the context has to *supply* the meaning; with a metaphor, the context has to *limit* the meaning. For when a poet says that "all our yesterdays have lighted fools the way to dusty death," he is attributing to "yesterdays" *all* the characteristics that can be connoted by the secondary term, except those characteristics that the rest of the passage cancels out. To explain exactly *how* a particular context limits the meaning of a metaphor by canceling out some of its potential meaning, we should have to go pretty deeply into the nature of poetry. Perhaps it will be enough for our present purpose to consider the example from *Macbeth* a little more carefully.

Our yesterdays, the passage says, have held a light to guide fools to dusty death. Now the term "lighted" has an enormous range of connotation; it *can* connote learning, truth, holiness, creation, love. But this light, we are told, is a "brief candle," a flickering, unsteady, dim and deceptive sort of light; it does not show us clearly where we are going, or where we are; it leads us not into daylight but into final darkness. Not only the other words in the same line, but the whole passage, and indeed the whole play, cut out some of the possible connotations of "lighted" and leave only those that can be understood as relevant to, and harmonious with, the context. We shall say more about this in the following section.

The simplest sort of metaphor has the form "X is Y": "He is a wolf." The secondary term doesn't have to be a predicate, however. It may be an adjective ("He has a wolfish appetite"), or a verb ("He wolfs his food"). To get the terms of the metaphor straightened out, we can always restate the metaphor in the simple form. We can write: "His appetite is wolfish," "His manner of eating is that of a wolf." This restatement will do violence to the

metaphor, and it is not an exact substitute for it; it is merely a device for being clear about the structure of the metaphor. The same device can be applied to those richer metaphors that have added so much to the clarity, and confusion, of recent history: "New Deal," "pump-priming," "maginot-line mentality," "brass hats," "bottlenecks," "fox holes," "underground," "reconversion," "the Iron Curtain," and "Fair Deal."

In figurative language of the richest sort, similes and metaphors are interwoven in a complicated way, and it may take considerable analysis to understand exactly what is being said.

> Life, like a dome of many-coloured glass,
> Stains the white radiance of Eternity,
> Until Death tramples it to fragments.

This remarkable figure has several parts, which can be artificially separated for examination. Ordinary discourse seldom poses such complicated problems. Still, figurative language, even outside poetry, can be quite puzzling. A figure of speech can confuse your thinking, if you are not clear about its primary term and its secondary term, and if you do not recognize what kind of figure it is.

A CHECK-UP QUIZ. Consider each of the following sentences. If it contains a figure of speech, indicate which kind of figure of speech by putting a circle around the correct symbol:

"CS" for "Closed Simile"
"OS" for "Open Simile"
"M" for "Metaphor"

1.	The wind was as sharp as a knife.	CS OS M
2.	The knife was as sharp as a razor.	CS OS M
3.	Some colleges are like factories.	CS OS M
4.	A house is a machine for living.	CS OS M
5.	Life is but a particularly vivid dream.	CS OS M
6.	Taxation is a way of financing government.	CS OS M
7.	Taxation is robbery.	CS OS M
8.	Taxation is just as justifiable as, say, collecting dues for a yachting club.	CS OS M
9.	Civilization is like a thin coat of shellac over the primitive brutality of man.	CS OS M
10.	Civilization is a pleasant form of barbarism.	CS OS M

RECOMMENDED FOR FURTHER READING: Porter G. Perrin, *Writer's Guide and Index to English.* Chicago: Scott, Foresman and Co., 1942, pp. 229–241.

§17. INTERPRETING A METAPHOR

Metaphor is a handy linguistic tool, because it crams so many meanings into a few words. But metaphor is difficult to use skillfully, and, in the hands of a careless or malicious workman, it often gives the reader or listener a good deal of trouble. Metaphor can be a very subtle aid to slanting. And the more meaning that is packed into a metaphor, the harder it is for the critical reader to think *through* it. Therefore, in this section, we shall take up the question of finding out just what a metaphor means.

We may begin by noting the common distinction between a "literal" sense and a "metaphorical" sense of a term. The *literal* meaning of "pig" is just its designation: that is, the characteristics of having four legs, having a snout, and so forth. If you say, "The animal in that pen is a pig," this statement *can* be literally true; an animal can have four legs. In this context, the connotations of "pig" are not stressed. But if you say, "That man over there is a pig," it is clear that this sentence *cannot* be literally true. For, if he is a man, he has *not* four legs. So, if this statement is to be true at all, it is not the designation, but only the *connotation,* of "pig" that is being ascribed to the man. In this case "pig" is used *metaphorically.* And this metaphorical statement is (or may be, depending on the context) equal to a number of literal statements: he is greedy, he is gross, he is dirty, he is lazy, he is fat.

We can now give a fairly clear definition of **"metaphor."** This term covers both statements ("The fire is dying") and noun-phrases ("a dying fire"). Let us consider statements first. We shall say that a statement is "metaphorical" if it has both of the following characteristics: First, it must be *literally* false. That is, the subject cannot possibly have the characteristics designated by the secondary term. Take, for example, the architectural slogan of an earlier decade: "A house is a machine for living." In the ordinary sense of the term, a machine is something that does work; we apply some form of energy (muscular effort, coal, gasoline, falling water) to it, and by the motions of its parts it changes the energy into a

different form. This capacity is one of the characteristics designated by the term "machine." But a house is *not* a machine in this sense. Second, a metaphorical sentence *may* be (it does not have to be) true on the level of connotation. That is, the subject *can* have the characteristics connotated by the secondary term. "Machine" connotes the characteristics of being useful, of being designed to fulfill certain specific functions, of not having parts it doesn't need to serve its ends. And (whether or not it ought to be) a house *can* be a machine in this sense.

A noun-phrase may be called a "metaphor" if it can be transformed into a metaphorical statement. In this way we speak of "pork-barrel legislation," "the voice of doom," "a living death" as metaphors.

It is important to keep "literal meaning" (that is, designation) distinct from *etymological* meaning. It is misleading to say, for example, that "budget" (from the French *bougette*) literally means *wallet*. The word "budget" literally means just what the dictionary gives as its *two* standard senses: (*a*) an accumulation, as a "budget of paradoxes" (this meaning seems to be on the way out), and (*b*) a financial statement for the ensuing period. There *is* on record the *obsolete* English sense (*c*) a bag with its contents; that once was one of the designations of "budget," but is not its "literal meaning" today.

This example reminds us of the constantly shifting character of the distinction between the literal and metaphorical senses of words (or between their designations and connotations). When we speak of "dead metaphor" we mean something that *was* a metaphor but is not any longer. "Spinster" is a "dead metaphor." Once it designated *a person who spins* (man or woman). Then, because most such people were unmarried women, it came to connote that characteristic. But when it began to be used very widely in contexts that emphasized this connotation, the connotation came to be so closely linked with the word that *unmarried woman* became the standard meaning, or designation. Today, in the proper context, it can *connote* the characteristic of being one who spins, but it does not now *designate* that characteristic.

When we speak of the "eye of a needle," we do not feel that we are comparing an eye to the aperture of the needle (even though

there is more than one respect in which they are similar). This use of "eye" is just one of its designations; the metaphor has "died." But when we read of the "eyes of Night," the context and the personification of Night present a situation in which we *do* feel a comparison of the star to the eye. This is a genuine metaphor. Of course, in between, there will be "half-dead" metaphors, borderline cases, such as, perhaps, "seeing eye-to-eye," in which the comparative element is almost lost and the phrase has practically hardened into an idiom.

It follows that the term "metaphor" is vague; there is no sharp line to divide living metaphors from dead ones. But for a full grasp of any discourse, you must make a good estimate of the amount of life left in its metaphors, especially when you are dealing with material from the social studies or psychology, where the borderline cases are frequent. In these fields, the technical vocabulary is often created by putting a metaphor to death. This is legal, but metaphors sometimes die hard. Hence the vocabulary of Freudian psychiatry has many terms, such as "repression," "censor," "projection," which are not yet fully under control. They are not quite dead enough so that their connotations can be ignored, and they can confuse the writer and reader.

We cannot tell whether a metaphorical statement is true or false until we know its meaning. To *interpret,* or *expand,* a metaphorical statement is to give a list of literal statements which, taken in combination, are equal in meaning to the original statement. In the case of "He is a pig," it may be possible to give a *complete interpretation,* but it would be an almost endless task to list *all* the characteristics wound up together in the meaning of a very rich metaphor. For most purposes this need not trouble us: usually we don't have to know *all* the characteristics connoted—but we do want to know whether a certain *particular* characteristic is connoted or not. Thus we must be able to give at least a *partial interpretation* of the metaphor, to bring out its special bearing upon the point of an argument.

As an example of a partial interpretation, let's consider the sentence "Russia has drawn an iron curtain across Europe," as it turns up in a discussion of American foreign policy. The first thing to do is to get the *terms* of the metaphor straight. We see that this

metaphor is a double one. In the *main* metaphor, drawing an iron curtain is compared to Russian diplomatic and military behavior toward Eastern and Western Europe. But within the secondary term of the main metaphor, the "curtain" is stated to be an "iron" one.

The second step is to consider the connotations of the terms, beginning with the smallest units. You think of the characteristics of curtains (the kind you draw): their tendency to shut out air and light, to billow in a wind, to get dusty. Next you think of the characteristics of iron: its hardness, its brittleness, its uses for war. When you put these two groups of connotations together, they cancel each other out, in part, and in part they coalesce into the image of something that is strong, guarded, hard to penetrate. When you add the characteristics of drawing a curtain (the secrecy and suspense), you have a complicated skein of characteristics that are all wound up together in the meaning of the metaphor. The sentence *says* (whether it is true or false) that Eastern and Western Europe are being prevented from communicating with each other; that this is keeping information from getting into and out of Eastern Europe; that the lack of communication is entirely the fault of the Russians; that the boundary line is manned by armed troops—and there are many other meanings.

Clearly, when you ask whether the metaphorical sentence is *true* or not, you find that it is, in fact, a bundle of different statements, some of which may be true and some false. When metaphors turn up in the course of an argument, it is not safe to take them as they appear and leave it at that. You must interpret them; that is, you must break them down a bit, in order to make explicit exactly what is, and what is not, being stated.

A CHECK-UP QUIZ. In his book *Our Plundered Planet,* Fairfield Osborn shows how man has wasted his natural resources, and points out the terrible consequences that will follow if man does not take care to conserve the resources that remain. He says, *"The earth is not a gadget."*

This metaphor is very rich in its context; of course, the more you know about farming, about growth, about soil, and about living organisms, the better you can interpret it. First, think carefully about its meaning; ask yourself, for example, these ques-

tions: Is a cigarette-lighter a gadget? Is a car a gadget? Is your hand a gadget? Then indicate whether each of the following statements is part of the meaning of the metaphor by putting a circle around the correct answer.

1. The earth is free, like air and water. Yes No
2. Some important properties of the soil are not replaceable. Yes No
3. The crops we grow are not merely convenient, but absolutely necessary, for life. Yes No
4. We should not use machinery in farming. Yes No
5. The earth will never be uninhabitable. Yes No
6. We cannot use up the planet and throw it away when it's worn out. Yes No
7. The process of growth is complicated, and requires a rather delicate mutual adjustment of a number of things. Yes No
8. Man didn't invent nature. Yes No
9. Nature never gets out of order. Yes No
10. Making things grow is no push-button job: it takes time and patience. Yes No

RECOMMENDED FOR FURTHER READING: Hugh R. Walpole, *Semantics.* New York: W. W. Norton, Inc., 1941, ch. 7.

§18. ANALOGIES: THEIR USE AND MISUSE

We have said that in a closed simile two things are compared in certain respects, which are specified by the simile. Now, there are two different kinds of characteristics, or respects in which things may be compared. They may be compared in terms of *qualities:* for example, they may both be hot, noisy, or angry. Or, they may be compared in terms of *relationships.* Any thing, considered as a *whole,* consists of parts that are arranged in certain ways, and this arrangement, or organization, of the parts is a web of relationships that each part has to the other parts. Now, if we compare, say, a brick building with a *papier-mâché* model of it, we can't make the comparison in terms of the qualities of the parts. For the parts are made of different materials. But we can make the comparison in terms of the relationships *between* the parts. For if the model is a

good one, the positions of the floors and windows and doors, for example, will be related to each other in exactly the same way as in the building itself.

This notion of relationship is what marks an analogy. An **analogy** is simply a rather extensive closed simile in which the comparison is in terms of relationships.

Consider, for example, a map. The dots on the map (say, a map of the United States) are not very much like actual cities, and the lines on the map are not tall like mountains or wet like rivers, and the colors of the map are not at all like the colors of the earth in various states. But the structure of the map, if it is a good one, *corresponds to* the structure of the country it represents. That is, the shapes of the states are like the shapes on the map; the relative sizes of the states are like the relative sizes of the shapes; and the relative distances between actual cities are like the relative distances between the dots on the map. So the analogy between the map and the country is very close. When we can find such *strong* analogies as this, we can use one thing to represent the other.

The analogies we ordinarily use are not nearly so strong as in this example. But they can nevertheless be very useful. In particular, there are *two* ways in which analogies are a help to effective thinking, and there is a *third* way in which they are harmful to effective thinking.

First, we often use analogies to illustrate and clarify general principles. If you are trying to explain the way a steam engine or a gasoline motor works, it may be helpful to find something simpler that works on a similar principle. Popular science is full of ingenious, and often extremely illuminating, analogies of this sort. They act as small-scale models of the real thing, and they make an easy first step toward complete understanding.

But, of course, all such analogies break down at some point. Comparison with ocean waves will take the beginner a little way in a study of sound waves, and comparison with sound waves will take him a little way in a study of radio waves. But the comparison can be pushed to a point where the two things are so unlike that the analogy becomes misleading. The "ether" is not an ocean.

Second, analogies are fruitful for suggesting ideas that may lead to important discoveries—*working hypotheses* that can be put to

experimental test. Suppose you are studying one thing—say, lightning—for the first time. And suppose you notice that it has many characteristics in common with electric sparks. You know that electricity can produce a current, and you wonder whether lightning may be like electricity in this way, too. Of course *you* know it is. But Benjamin Franklin did not know the answer until he tried his famous experiment. The analogy between the growth of the embryo and the course of evolution, between electro-magnetic fields and gravitational fields, between the solar system and the structure of the atom—all these, and many others, have been very useful in the history of science.

But, again, these are only analogies. An analogy doesn't *prove* anything; it merely calls to mind a *possibility* that might not have been thought of without the analogy. It's the experiment that counts in the end. Bohr's classic model of the atom is *only* a picture. It has clarified some points about the atom, it has hinted at some good hypotheses; but if you take it as *proving* anything about the atom, you are misusing the analogy. You can be fooled just as much by it as were those early inventors who tried to construct airplanes that flapped their wings, on the analogy with birds. Analogies *illustrate,* and they lead to *hypotheses,* but thinking in terms of analogy becomes fallacious when the analogy is used as a *reason for* a principle. This fallacy is called the **"argument from analogy."**

The makers of a patented drug to relieve headaches used to advertise their product over the radio with this patter: "It is like a doctor's prescription, since it contains not one, but many, proven ingredients." One interesting thing about this argument—apart from its imbecility—is that the conclusion is merely *suggested* by the context, and not very definitely at that. You gather that the advertiser is suggesting that the drug is safe to take, is designed for your specific illness, is scientifically prepared by a pharmacist. You think: This must be all right for me, if the doctors say so. Of course, the advertisers were careful not to come out and *state* these claims, since there is a Federal Bureau which keeps a watchful eye on false advertising claims.

Probably this argument has actually convinced many people that the drug is better than aspirin for a headache. In any case, the

form of the argument from analogy is pretty clear from this simple example:

X has certain characteristics *a, b, c* . . . . .
Y has the characteristics *a, b, c* . . . . .
But Y also has other characteristics *x, y, z.*
Therefore: X has the characteristics *x, y, z.*

The argument begins with two things, X (the drug) and Y (a doctor's prescription). It proceeds from certain *assumed resemblances* (they both contain many "proven ingredients") to certain *inferred resemblances* (they are both recommended by doctors, for example). The underlying principle is: If X and Y have a number of characteristics in common, then it is likely that any *further* characteristics found in Y will *also* be found in X.

We have said that if two things have a good deal in common, we may guess that they may have even more in common. The likeness may justify a further investigation to see whether they actually *do* have more in common. But it does *not* justify our believing that they have more in common *without* the further investigation. It remains a guess. This is so because, no matter how many characteristics a pair of things have in common, there may be any number of other ways in which they are different. You can't even say that the more known resemblances there are between X and Y, the more likely it is that X will have any further characteristic found in Y.

The above argument is not a good one, but it could be the *beginning* of a good one. When we see what it would take to make a good argument, it will be easier to see why the argument from analogy is unsound. Suppose you analyzed a number of things, each of which contains several "proven" ingredients (*a*) but which is very different from the rest in other ways (a sponge cake, a plastic toy, blood, an Old Fashioned). And suppose that in every case you found that these things were recommended by doctors (*z*). Then you might make a generalization: "Everything that has *a* also has *z.*" You might say: "Here is this drug. It has many proven ingredients. If my generalization is true, this drug will also be recommended by doctors." This is the way you would ordinarily extend a generalization to a new case where it can be applied.

But, of course, in this case the generalization would obviously be untrue.

We are going to deal with generalizations later, and we shall take up the question of proving them. The important point here is that it takes at least a *fairly large number* of *different kinds* of cases to make a good generalization. The argument from analogy is an attempt to short-circuit this rule without appearing too implausible. If the relevant generalization about the drug is already proved, then the argument is *not* an argument from analogy any more: it is a legitimate extension of a known generalization to a new case. If the relevant generalization has *not* been proved, there is no basis whatever for the argument.

A CHECK-UP QUIZ. Check those passages that contain *argument from analogy;* do not check the ones in which analogies are used merely as illustrations or as hints for further investigation.

1. Children of blue-eyed parents always have blue-eyes—at least, in every case that has been observed. Now, I know that child's parents both have blue eyes, and therefore that child must have blue eyes.
2. The situation facing the democracies in 1950 is very similar to the situation facing the Greek city-states in the time of Philip of Macedon: there is the same threat of domination by a militaristic power, the same mutual suspicion among the threatened countries, the same pervasive fatalism. It is evident that we are destined to be overcome and overrun.
3. Why should we sentimentalize over a few thousand people who were cheated or ruined when our great industrial enterprises and railroads were being built? Sure, they were unhappy about it. But, after all, you can't make an omelet without breaking eggs.
4. Politics is like baseball: everyone gets a chance to hit the ball, and everyone gets a chance to run after it. You cheer for your side when it's up, and next time the other side is up. And when the score is in, everybody's friends again.
5. The social and political institutions of the bee are characterized by a remarkable degree of selflessness in subordinating the individual to the hive. Each bee seems to know his place

and to fulfill it to the best of his ability—and, in so doing, he appears content. It is possible that the success and permanence of these arrangements can teach us lessons of great value in our own political thinking on the human level. For example, our government might be much more stable if we took greater pains to discover everyone's abilities and needs, and give him the right job—a proposition I recommend to the social scientist for further serious study.

RECOMMENDED FOR FURTHER READING: L. S. Stebbing, *Thinking to Some Purpose.* Pelican Books, 1939, ch. 9. Robert H. Thouless, *Straight and Crooked Thinking.* New York: Simon and Schuster, Inc., 1932, ch. 8.

§19. ANSWERING AN ANALOGY

The argument from analogy turns up constantly in ordinary discourse; it is one of the commonest fallacies. When you find such an argument trying to impose upon your thinking, the first thing to do is get the argument straight by analyzing the assumed resemblances and the inferred resemblances. Then you know exactly what the argument is, and you are ready to answer it. There are *three* different ways of showing what is wrong with an argument from analogy.

(1) To begin with, the assumed resemblances may *not* be actual resemblances at all. If this is so, the simplest answer to the argument is to point out succinctly the weakness of the analogy. Suppose someone argues for a world federal government by analogy with the American colonies. There will be *some* resemblances, but there may be also important differences that have been overlooked. Of course, if the arguer stacks up a number of historical examples—the unification of Germany, Italy, Switzerland, Greek city-states—then he may be trying to establish a generalization. But if he merely gives *one* example, he is arguing by analogy, and the first question is: how *strong* is the analogy?

If the analogy is weak, then, you can answer it by *attacking the assumed resemblances*:

A: "We shouldn't blame the movie-makers for the cultural level of their pictures. Movies are *Statement of Analogy*

simply manufactured goods. They are just like washing machines; therefore, producers are justified in selling whatever pictures the public will buy."

B: "I admit movies are manufactured, but they are not much like washing machines. A poor washing machine is merely a waste of money; a poor movie is bad for the mind." *Attack on Assumed Resemblances*

(2) The assumed resemblances may really *be* resemblances, as far as they go. Nevertheless, even if X and Y are both red, and Y is round, it doesn't follow that X is round—unless there is some reason for believing that probably everything that is red is also round. In short, only the generalization would justify the inference. To answer the argument from analogy it is enough to show that the generalization is untrue. To do this, give examples that tell against it.

The second answer, then, consists in *attacking the underlying generalization*:

A: "Fellow temperance-workers, we know that the delicate membranes of the stomach are like the delicate membranes of the eye, and if you want to see what alcohol does to the stomach, just pour some gin in your eye." *Statement of Analogy*

B: "This is no argument at all, unless the speaker is suggesting that anything that hurts the eye will also hurt the stomach, which is absurd. If it were true, lemonade would not be good to drink." *Attack on Underlying Generalization*

(3) But even if the required generalization is true, a person who argues from analogy lays himself open, frequently, to a simple but effective retort. If he says, "We should not change horses in midstream," it's easy to reply, "Oh, but when the horse has bogged down, and the flood-waters are rising, you have to change horses or drown."

This answer consists in *extending the analogy* to the point where it boomerangs. Of most of the loose and confused analogies that figure in political argument, especially the old one comparing the state with a ship, it may be said that, if they proved anything (which

they don't), they would prove *too much*. Almost any such analogy can be extended to include points that the original user would find embarrassing. This third way of answering the analogy is, of course, *not* an argument against the truth of the other person's conclusion. It merely uses the analogy to show that the original argument was fallacious, which is a legitimate refutation.

Sometimes it is also the most convincing refutation. Notice how B, in the passage below, turns A's analogy against him. B uses the analogy as an *illustration* to show that the principle of the argument from analogy cannot be defended.

A: "If we want to find out who is the best 100-yard sprinter, we have to have a race and let everyone compete in it; and we must not interfere with the race by holding up some runners and helping others. Now, economic competition is just like a race, and if we want the most efficient industries to come out on top, we must leave them alone." *Statement of Analogy*

B: "Your analogy is an excellent one, only you don't carry it far enough. For we can't run a fair race without *rules*, to keep the runners from jumping the gun and tripping each other up. That's the only way you can be sure that the winner really is the best runner, not merely the best tripper. Thus your analogy implies that we must have strong rules to keep down monopoly, and price-fixing conspiracies, to make the economic race a fair one. Moreover, your analogy implies that, to ensure fairness, we should start everyone off at the same place, with an equal amount of money." *Extension of Analogy*

A CHECK-UP QUIZ. Here are five arguments by analogy, and five answers to them. Indicate which kind of answer is given in each case by putting a circle around the correct number:

(1) for an attack on the assumed resemblances
(2) for an attack on the underlying generalization
(3) for an extension of the analogy

1.	A: "A new broom always sweeps clean; it's time for a change."	B: "It's not the broom, but the sweeper, that counts. And our Administration has had a lot of practice."	1 2 3
2.	A: "Putting a traffic light at Elm and Whittier, after last week's frightful accident, is simply locking the barn door after the horse is stolen."	B: "This is not fair; putting up the light is not locking an empty barn: we are trying to prevent *future* accidents."	1 2 3
3.	A: "If your neighbor's house is on fire, and the wind is blowing your way, you don't ask him a lot of questions and make him sign papers, before you get out and help him. The same goes for the United States when trouble looms in Europe."	B: "But that's different. A fire is one thing, but a war is something else again: you can't stop a war just by making it a bigger one."	1 2 3
4.	A: "If a couple of your feudin' neighbors are out taking potshots at one another, you don't rush to get in the middle of it, and you're a fool if you take sides. Let America stay at home. No foreign entanglements."	B: "When people start shooting, the innocent bystander gets hit. If there's a feud, everyone is in danger from stray bullets, and you're a fool if you *don't* put a stop to it."	1 2 3
5.	A: "Trying to sell other nations the idea of democracy is as futile as trying to get them to wear our clothes and speak our language. You can't export ideas."	B: "If you argue that way, it would be futile to try to teach other nations the discoveries made by our chemists and doctors. Ideas are exported all the time."	1 2 3

RECOMMENDED FOR FURTHER READING: Alburey Castell, *A College Logic*. New York: The Macmillan Co., 1935, Topic 3.

§20. MANAGING FIGURES OF SPEECH

Though it takes practice to use figures of speech accurately, we can hardly get along without them when we speak or write. They are an indispensable way of extending our vocabulary to meet new situations. They make a little stock of words do a large number of jobs. If we can find a word that designates, say, not only the peculiar *degree* of tenseness widely felt in the United States during the summer of 1949, but also the peculiar *quality* of it, then we can use that word. But when the word is lacking, we turn naturally to a figure that will enable us, through explicit or implicit comparison, to describe that degree and quality of tenseness. We say it was the tenseness of a ball-game tied up in the ninth, or the tenseness of a man at the dentist's, or the tenseness of a certain piece of music. These are different kinds of tenseness, and we distinguish them by speaking figuratively. Even if we knew all the words in the unabridged dictionary, we would still need figures of speech to mark the important qualities of our experience precisely.

But the trouble with these figures is that they have a strong pull on our fancy. They tend to run away with us; then we find that our thinking is directed, not by the force of the argument, but by the interest of the picture. Then we blur the distinction between figure and fact, like the primitive magician sticking pins in a doll to kill his enemy. It is this kind of *Picture-book Thinking* that makes political cartoons so effective and so confusing. The cartoon sometimes says something very clearly—but it is a metaphor, and usually it says too little or too much. The mutual pressure of wages and prices in a time of inflation is startlingly like a revolving door with "John Q. Public" caught in it (you can picture the cartoon, perhaps)—but if you think about economics solely in terms of revolving doors, soaring balloons, and seesaws, the effectiveness of your thinking is bound to be limited.

When you use figurative language, it is only too easy to say what you don't mean, or to be ambiguous. If you say that So-and-so is "clever," you are fairly safe; if you say he is a "fox," you're saying a lot *more,* but you should be sure you're not saying too much. *How* is he a fox? In what respects? To what degree? A certain Senator took a pot-shot at President Truman's "nonpolitical" tour

in the early summer of 1948, saying that the President was damning Congress at every "whistle-stop." His metaphor said what he wanted to say: that the President was wasting his time and being undignified. But it said *more* than he wanted to say: the metaphor has *other* connotations that the Senator overlooked. The Senator made himself unpopular in many places, for even the smallest towns did not relish the contemptuous connotations of the term "whistle-stop."

Figures of speech have a tendency to say too much, then; and they are often ambiguous, especially when abstracted from their context. For example, if you know the philosophy of the seventeenth-century English philosopher Thomas Hobbes, you will understand him clearly when you read his often-quoted statement:

> Words are wise men's counters—they do but reckon by them—but they are the money of fools.

Hobbes makes it plain that he thinks we confuse ourselves by paying more attention to the word than to what it stands for. Yet out of context the metaphor is very indefinite, for though there is truth in it, there is also truth in the opposite metaphor:

> Words are fools' counters—but they are the money of wise men.

You can usually keep a figure of speech within bounds if you watch your context as you write. Sometimes it's too much trouble. For example, this book might be described by the old saying that a book is "a machine to think with." This is an interesting metaphor, and it seems at first glance appropriate. Now, it would be all right if, in reading the word "machine," you think of a steam-shovel or a lathe, an elaborate sort of *tool* that you have to guide constantly with your hand and brain. But it would be very misleading if you were to think of a newspaper press or a Bendix automatic washing machine, which requires only that you push a few buttons: the machine does the rest. This book is not *that* kind of a "machine to think with." But to guard against this misunderstanding would have required a somewhat elaborate context. Therefore the metaphor is not used in this book, except as an illustration of the point that it may be better not to use a metaphor if it would take a great deal of trouble to control it.

There are two very common ways in which a writer may let his figure of speech get out of hand. The *first* is by dwelling on it so long that it no longer bears comparison with his main idea.

Imagine a student writing a composition about his first days at college and organizing it around the figure of a man exploring an unknown country. There are real resemblances here, which the figure can convey. But the unskillful writer often doesn't know when he has too much of a good thing. Thus the student refers to the various buildings as "unmapped regions," to the library as a "natural resource," to the rules of registration as "local customs peculiar to the culture." The instructors become "natives in their habitat"; the courses become "streams of learning, into which the explorer dips"; and the extracurricular activities somehow become "the exotic flora and fauna indigenous to the place." Somewhere along the way the figure becomes forced and farfetched. The two terms no longer support the comparison, and the differences between X and Y become more obvious than their likenesses. At this point, a reader cannot attach any sensible meaning to the description. It would be much better for the writer to switch to plainer language, or to work into other, and more accurate, metaphors.

The problem of changing figures of speech points up the *second* way we let our figurative language run away with us. If we change too fast, we *mix* our figures. There is a crucial difference between a *mixed* figure and a *blended* figure, but the difference is technical, and we shall have to be content with a somewhat vague account here. When Eliot speaks of "the damp souls of housemaids," or Cummings of "The Cambridge ladies who live in furnished souls," there is certainly a shock of contrast. But when we dwell on these images, they blend into coherent sets of meanings. That doesn't happen with a sentence like "I smell a rat; we must nip it in the bud before it boils over." When the orator says we must "keep our eye on the ball, our shoulders to the wheel, and our noses to the grindstone, while, with a stiff upper lip, we swallow our defeats and toil upward—and let the chips fall where they may!" he puts us into an impossible posture. It is evident that the connotations of these words conflict with one another and produce nonsense. The figures are incongruous, and therefore ridiculous.

Unfortunately we do not know how to give a precise account of this notion of *congruity* in a figure of speech. At this stage of our knowledge, we can only talk about it roughly. In a congruous figure, we must be able to trace some thread of similarity through all the things the figure brings together. The connotations must not cancel each other out completely. This is what you should watch for in your own writing. "His castles in the air went up in smoke" is congruous (though trite), because castles literally can burn. But "his sand-castles went up in smoke" is *not* congruous, because sand does not burn. This way of putting the matter is much too simple, of course, but it shows you the sort of question to ask when you use a figure of speech.

When you use a metaphor in presenting an argument, you want to stand a good chance of being safe from confusion. These are the points to keep in mind: (1) Make sure you know not only what *you* mean, but what your *metaphors* mean: the two are not always the same. If a metaphor connotes any characteristics you do not want the reader to think about, make sure your context rules these meanings out. (2) Don't dwell on a metaphor any longer than it will bear clear comparison with your main idea; change to plainer language or to another figure. (3) Don't combine metaphors that are not congruous with each other at some level of meaning; a mixed metaphor is a fairly sure sign that the writer himself doesn't know exactly what he is saying.

When you use analogies, remember that giving an illustration is not the same thing as presenting an argument. Rightly used, analogies are valuable tools of thought. They help you to feel your way into a subject. They help you to direct the reader's attention to the significant features of what you are talking about. Sometimes they provide you with a clear and concise way of organizing an essay or a speech. But if you have a point to make for which reasons must be given, analogies are not enough. That takes *evidence,* which is quite a different thing.

RECOMMENDED FOR FURTHER READING: Cleanth Brooks and Robert Penn Warren, *Modern Rhetoric.* New York: Harcourt, Brace and Co., 1949, ch. 11.

Outline-Summary of Chapter 4

The chief problems in handling figures of speech are presented by (A) metaphors and (B) analogies.

A. A metaphorical statement ("The Unification Act was scuttled by mutineers") has two features:

1. It is always false as far as the designation of the predicate is concerned: an Act of Congress cannot have holes cut in it.
2. It may be either true or false as far as the connotation of the predicate is concerned: an Act of Congress may be rendered ineffectual by refusal to obey it.

To explicate, or interpret, a metaphor is to make explicit those connotations of the predicate that are consistent with the context in which the metaphor appears.

B. An analogy is an extended simile, a comparison between two things (for example, between the rules of grammar and the rules of chess) with respect to their structure.

1. An analogy is useful for clarifying a complex thing or process, and for suggesting working hypotheses to be tested; the analogy above may help us to see the element of convention in the rules of grammar.
2. An analogy is misused when it is made the basis of an *argument* from analogy: "The rules of grammar and chess are both accepted for the sake of certain ends, and in both cases other rules would serve as well. But we can get along without chess, *therefore* we can get along without grammar." No matter how many characteristics two things have in common, it cannot be inferred that another characteristic of one of them will be a characteristic of the other.

Exercise 15

Underline all *figures of speech* in this passage. In each case, write out (1) the secondary term and (2) the primary term (you may have to supply this yourself); and (3) label the figures—"CS" for "closed simile," "OS" for "open simile," "M" for "metaphor."

> What is wrong with man, and with the world today? Thoughtful people are asking this question more insistently than ever before.

When we look about at our environment, nature and society, we see that the cement is falling out. The ties of mutual respect and common cause that have bound men together are loosened and cut. We are like separate mountain peaks that have become islands as the dark waters rose over the friendly land between. Our social institutions are as impotent to unify us as were the King's horses and men with that famous Egg.

And when we look within ourselves, we find a horrible and deadly vacuum. The modern man is lost. We are hollow men; we have no inner authority on which we can rely. Like a beam going out, the decline of religion, eaten by the acids of modernity, has left us spiritually blinded. We are weak before the storm of doubt, cynicism, fear, skepticism, and their brood. With all our atomic toys, we are as helpless as a mummy buried with all the riches and beauties of a living king.

Exercise 16

Here are three *metaphors* that have some meanings in common:

(1) In the most active period of the New Deal, under President Roosevelt, many people complained that Congress was becoming a *rubber stamp.*

(2) Churchill once referred to Mussolini as *"that utensil."*

(3) In an address to the Republican National Convention, in Philadelphia, 1948, Mrs. Clare Booth Luce asserted that "Hank Wallace" was *"Stalin's Mortimer Snerd."*

For the purpose of this exercise it does not matter whether these metaphors were truly or falsely applied. The problem is to *interpret* these metaphors, partially, in the following way:

1. Give three characteristics connoted by "rubber stamp," but *not* by either of the other two metaphors.
2. Give three characteristics connoted by "utensil," but *not* by either of the other two metaphors.
3. Give three characteristics connoted by "Mortimer Snerd," but *not* by either of the other two metaphors.

Exercise 17

These five figures of speech have already been used in this book. Give a brief *partial interpretation* of each one: that is, point out at

least *two* respects in which it is appropriate, because the primary term resembles the secondary term in those respects, and point out at least *two* respects in which it may be misleading, because the primary term does not resemble the secondary term in those respects.

1. "Sizing up" an argument.
2. The "bones" of an argument.
3. The comparison between a fallacy and a "disease."
4. "Levels" of meaning.
5. "Slanted" discourse.

Exercise 18

In the following passages, analogies are used as *illustrations* or as *arguments*. Pick out *only* the arguments, and analyze them. State briefly (1) the assumed resemblances, (2) the inferred resemblances, and (3) an important difference between the things that are compared.

A

A book on economics said:

It is true that we don't have a great deal of *direct* evidence about what happens to a nation which continues to leave its budget unbalanced over a long period. But it is imperative for us to know whether we are running into national disaster by piling up our national debt, instead of cutting it down and making the budget balance. Without direct evidence, our best method is to turn to the closest thing we *do* know about, and that is the *family* budget.

We know that a family cannot run up debts forever; it will sooner or later lose the confidence of tradesmen, it will owe more than it could pay even by selling all its household goods, and it will go into bankruptcy when the creditors become insistent. This is reason enough for predicting *national* insolvency if we go on the way we have been going.

B

An educator said:

You might liken my theory about bringing up children to gardening. I never heard anyone say that a gardener had "spoiled" his plants—even the hardiest vegetables—by letting them have too much sunlight, or too good a soil, or by protecting them from insects and rabbits. There is overwhelming evidence that children can't have too

much love. You can "train" children the way you can "train" plants—and you can get something as grotesque and pathetic as one of those hedges kept carefully clipped in some weird and unnatural shape. If that's what you want, you can have it.

But the child for me, and the child America needs, is the one who grows up as much as possible in his own way, in the most favorable environment for bringing out his own talents, his own spirit, and his own character.

C

A letter to the editor:

It seems to me we've had enough of this sniping at the President. Suppose the Captain of a ship dies at sea, and the mate takes over the helm, suppose he keeps the Ship of State on an even keel, while the crew obstructs him in every possible way, and the passengers nag and scold. Suppose he never flags in devotion to duty and to his ship—he would deserve our highest praise. And therefore our President does, too.

D

From Pope's Essay on Man:

What if the foot, ordain'd the dust to tread,
Or hand, to toil, aspir'd to be the head?
What if the head, the eye, or ear repin'd
To serve mere engines to the ruling Mind?
Just as absurd for any part to claim
To be another, in this gen'ral frame:
Just as absurd, to mourn the tasks or pains,
The great directing Mind of All ordains.

E

From Hobbes' Leviathan:

For by art is created that great Leviathan called a Commonwealth, or State, in Latin Civitas, which is but an artificial man; though of greater stature and strength than the natural, for whose protection and defense it was intended; and in which the *sovereignty* is an artificial *soul,* as giving life and motion to the whole body; the *magistrates,* and other *officers* of judicature and execution, artificial *joints; reward* and *punishment,* by which fastened to the seat of the sovereignty every joint and member is moved to perform his duty, are *nerves,* that do the same in the body natural; the *wealth* and *riches*

of all the particular members, are the *strength; salus populi,* the *people's safety,* its *business; counsellors,* by whom all things needful for it to know are suggested unto it, are the *memory; equity,* and *laws,* an artificial *reason* and *will; concord, health; sedition, sickness;* and *civil war, death.*

F

From Bacon's Essays:

No body can be healthful without exercise, neither body natural nor politic; and, certainly, to a Kingdom, or estate, a just and honourable war is the true exercise. A civil war, indeed, is like the heat of a fever; but a foreign war is like the heat of exercise, and serveth to keep the body in health; for in a slothful peace, both courages will effeminate and manners corrupt.

Exercise 19

Write answers to *three* of the following arguments by analogy. Make your line of attack as clear as possible, and point out the figures of speech that particularly help to give the argument a misleading slant.

A

A newspaper commented:

Here is an extraordinary item from this week's news from Germany. A ruling has been handed down by a U. S. military court which previously had found the leaders of the Krupp armaments trust not guilty of aggressive war. The ruling explained that in the judgment of the court an industrialist cannot be charged with aggressive war unless he had actual knowledge "of the plans" for aggression.

This is like saying that the man who furnishes guns to a band of bank robbers is guilty of nothing unless he has been informed beforehand exactly which bank is going to be robbed and which night watchman the gang proposes to kill first.

B

A speaker concluded:

. . . . And the thought I would like to leave with you, ladies and gentlemen, is that we ride the stout bark of the Constitution through stormy seas. Beset on every hand by Clouds of Ignorance, Winds of Radical Doctrine, and Waves of Doubt and Terror, we have but one compass to guide us—and its needle points straight to a Brave New

World. In this predicament, the old rules of seamanship teach us one truth: we must not turn from the Course, or we are lost. We must not be tempted by novel theories of navigation, indulge in dangerous experiments, listen to suggestions that we change our destination, or allow any question about what we are doing. Though lanyards fall and rigging snap, we must steer by the One Light of the Republic to that far-off shore that beckons through the stormy night.

C

An industrial relations consultant said:

All this nonsense about workers "sharing the responsibility of management" and the rest of it is not only foolish, but dangerous to the efficiency of industry. The workers are the privates of our industrial army, and not everybody can be an officer. You take a crack infantry division—the orders go *down,* not *up.* Every level is responsible for the level below, and completely obedient to the level above. If an industry wants to win its great battles of production, what could be a better model for it to follow?

D

A columnist wrote:

When prices started going up after the war, the professional howlers set up a great cry of "inflation." People were frightened out of their wits by the old bugaboo, Depression, like a Hallowe'en mask dragged out of a dusty attic. But when goods are as scarce as buffalo nickels, how can you expect to get them fast without letting the market work up a head of steam? Maybe the price level will spill over a bit and soak a few careless people, but nobody will get drowned. Those two "honest serving men," Supply and Demand, are the silent watchmen of prosperity; you can't bribe them with Federal money or soften them up with humanitarian wailing.

After all, the price level is like the water in a reservoir, rising till it finds its proper level. It takes care of itself. Price controls, subsidies, and other interferences are just monkey wrenches in the economic machine. The machine will work, if you let it alone.

E

A magazine advertisement said:

How would you like to play football if the referee was on the other team? He would make *your* team live up to the rules. But *he* could

grab the ball whenever he wanted to, *he* could get away with clipping, and *he* could be offside. What kind of a game is that?

This may sound funny to you, but it's no joke to us—*your* producers of electric power, owned by *you* stockholders, and providing cheap electricity to *you* consumers, to keep *your* radios and lights and refrigerators going.

Because that's the hole we're in. The government makes the rules for all power companies—*and* THE GOVERNMENT IS IN THE POWER BUSINESS FOR ITSELF! The catch is that in this game the officials make two different sets of rules. The government can get its capital at very low interest rates—it pays no taxes—and if it can't make ends meet, because of poor management, it can dip into the U. S. Treasury for some of *your* taxes to bail itself out! We can't do that.

Of course the government can win *that* kind of a game—IF YOU LET IT. Of course it can be a Rose Bowl champion, with that kind of set-up. The business-managed, tax-paying electric light and power companies, who have given America the best electric service in the world, are in there bucking the line. BUT LOOK OUT! That referee is running with the ball!

Exercise 20

The 1948 Presidential campaign produced an incident that is now a matter of history. In accepting the Democratic nomination, President Truman called the Eightieth Congress into special session to reconsider some legislation it had failed to pass in its regular session. Congress met early in July, but failed to take the measures which the President proposed.

Meanwhile, the House of Representatives' Committee on Un-American Activities (of which Representative Mundt, of South Dakota, was then acting chairman, during the illness of Representative Thomas, of New Jersey) resumed its inquiry into Soviet influence in Washington during the war. The Committee secured prominent newspaper headlines during the next two months.

On August 5, 1948, in answer to a question at a press conference, the President said he thought that the Committee hearings were a "*red herring*" to distract attention from the failure of the Eightieth Congress to pass necessary legislation. The metaphor was promptly picked up, and hundreds of remarks were made about it.

A number of typical remarks are listed below (with thanks to Mr. A. J. Liebling, who discussed some of them in his article, "At the Sign

of the Red Herring," in *The New Yorker,* September 4, 1948; and to the Philadelphia *Bulletin,* which carried an editorial entitled "More Red Herring" on September 9, 1948). Your problem in this exercise is to comment briefly upon each remark, pointing out how the metaphor has been mixed and confused.

1. It is evident that the House Committee has disinterred a particularly malodorous red herring, which it is endeavoring to warm up and serve as a substitute for price control and civil rights legislation.
2. Maybe the red herring will turn out to be an octopus.
3. Maybe the Committee hearings are a red herring, but there is something fishy all the same.
4. The biggest red herring is in the government files, but the President has refused to let the public, or the Congress, look at them.
5. Maybe it will be the President, not the herring, that has a red face, after all.
6. To belittle the fine work of the Committee, as the President did, is only to feed the red herring of Communism until it grows big enough to swallow us up.
7. The President talks of red herrings; but he is shouting encouragement to the biggest red herring of them all: his refusal to supply essential data about the loyalty of government employees to the Congressional Committee.
8. The Committee's investigations have shown that highly placed members of the Democratic Administration were helping the Communists: this is, indeed, "good red herring" of the most substantial sort.
9. The Republican Congressmen on the Committee are doing important work. They are driving the red herring out of the official waters of the Potomac, where the previous administration let them spawn at will.
10. The President should man the red herring nets, instead of complaining about the fishermen.

5

EMOTIVE LANGUAGE

THERE IS A MOMENT of silence, and then the voice comes out of the loudspeaker. It is warm and friendly, yet resonant and firm, and, as it goes on, it gathers intensity. You hear,

> . . . . and I think you people out there in this great radio audience will agree with me: we're not going to be pushed around. We will settle this question of public electric power in true democratic fashion. We will not be lured into fanaticism by the reactionary Fascists, and their plutocratic supporters; we will not be tempted by the subversive Reds, and their unshaven proletarians. We—that is, the great middle class, to which you and I belong—will follow the middle road of plain horse sense. . . . .

If you are looking for information or advice, you haven't found much so far. You gather that the question has to do with electric power, and that the speaker is recommending what he alleges to be a mean between two very undesirable extremes. That's about all that is explicitly asserted. But if you look into your own reactions, you may find that you have already been somewhat stirred by these words, even if you think they are very trite. They conjure up vague hopes and fears; they tap some ready emotional responses; and they may partly prepare you to agree with what the speaker is going to say, when he gets around to his specific point.

A great deal of the discourse that confronts us from day to day will illustrate this fact about words: that they have a valuable, and disturbing, power to arouse feeling. Language that has this power to a high degree we may call "emotive language," and knowing how to handle discourse that contains such language is an important part of effective thinking.

It is very easy to oversimplify the effect of language upon feeling,

and the effect of feeling upon thinking. We shall have to be rather tentative in what we say, since too little is known about these questions to justify complete certainty. Yet, when we are trying to think critically about what we read and hear, we have to reckon with our own feelings. And to reckon with them wisely, we need some clear principles to guide us. In this chapter, therefore, we shall deal with these two closely related problems: how do words arouse feelings, and how do feelings affect thinking?

§21. WORDS AND FEELINGS

The tendency of a term to arouse feeling we shall call, for the sake of abbreviation, its **"emotive force."** It is important to realize that terms can arouse feelings, but it is just as important to realize that they do so very largely *through their meaning.* This fact is hardly ever given the emphasis it deserves. It is because a term calls to mind certain characteristics of things, and because these characteristics are loved, admired, or feared, that the term can stir up emotional responses in the reader or listener. There are, it is true, some words that are often said to have no meaning—at least, if they have meaning, it is extremely vague and general. These are *expletives*: "Phooey!" "Hooray!" "Damn!" (the publishers would prefer you to supply the more extreme examples yourself). Certainly such words are able to arouse strong and instant responses; and *perhaps* they do so independently of any meaning.

But, on the whole, the feelings aroused by a term are aroused through, and by means of, the characteristics it designates or connotes. If two terms *denote* the same thing ("our great President" and "that Man in the White House"), the difference in emotive force is surely due in large part to the difference in what they *designate.* The same is true of pairs of terms like "rash, brave"; "cautious, cowardly"; "spendthrift, generous"; "miserly, thrifty": the designations are close, but not identical. That is why to be called "thrifty" is a compliment, "miserly" an insult.

Even if two terms have the same *designation,* their *connotations* may be different enough to give them very different emotive force: compare "bride" with "woman who has just been married." "Statesman" and "politician" are to some extent synonymous, but if the former arouses a feeling of liking and the latter one of disliking, this is not a result of the way they *sound. Webster's Dic-*

tionary points out that "politician" has a "suggestion of artifice or intrigue; . . . . 'statesman' now usually suggests broadminded and far-seeing sagacity in affairs of state." If the connotations were identical, and the difference were entirely a matter of emotive force, then our account of words and feelings could be much simpler. But this is not the case. Hence we shall not adopt the term "emotive meaning," though it has figured a good deal in discussions of this problem. We shall not say that emotive force is another *kind* of meaning, because it is usually, if not always, an *effect of meaning*.

Of course, the emotive force of a term is bound to vary a good deal from person to person, and from region to region, among those who use a given language. It depends upon experience, upon beliefs, and upon the connotations of the word brought out in certain contexts. In a discussion of race relations, the term "segregation" carries disapproval in northern states and approval in southern states; the reverse is true of the term "civil rights." Similarly, when syphilis was widely believed to be caused only by immoral behavior, the term "syphilis" could not be used in polite society or printed in a newspaper; but it has now lost its shocking connotations. Thus to speak cautiously of a term's emotive force, we may have to refer to a particular social group living at a particular time.

When we examine discourse from the point of view of the feeling it arouses, there are two things to note. We can describe the *quality* of the feeling (as irritation, pride, uneasiness, excitement), or we can compare the feeling with other feelings (roughly) with respect to the degree of *approval* or *disapproval* involved. If we take a group of nearly synonymous terms, it may be possible to give them a kind of comparative rating on a scale ranging from those at one end that arouse the strongest approval for the things denoted to those at the other end that arouse the strongest disapproval. Near the middle we may be able to find a term that has very little emotive force, and we can call it "neutral."

Thus, taking the fairly *neutral* term "candidate for office," we can put it in between the fairly *honorific* term "man willing to serve if elected" and the fairly *derogatory* term "office-seeker." Or, we can compare "public servant" (honorific), "government official" (fairly neutral, but faintly derogatory), "bureaucrat" (strongly

derogatory, and sometimes almost abusive). In more complicated cases, we may have a whole series of terms to compare. In the Spanish Civil War, the terms that newspapers used to describe the Government ranged through "Loyalist, Republicans, Democratic party, the Government, Socialists, Reds," while the terms used to describe the anti-Government forces of General Franco ranged through "Anti-Communists, Nationalists, Anti-Government, Rebels, Fascists." This sort of comparison is illuminating, if we are clear about what we are doing. We are trying to see the differences in meaning, and we are making a rough estimate of the degree of approval or disapproval that the terms are likely to arouse at the time and place at which they are used.

Sensitivity to the emotive force of discourse is one qualification of a critical reader. Sometimes we have to go further: we can't tell whether an argument is a good one or not, until we take out some of the more violent terms and substitute more neutral ones. It is not always easy to find a neutral term that will preserve the designation of the original one; often a long circumlocution is required. Thus we have "firm" (honorific) and "stubborn," "obstinate" and "pig-headed" (which are derogatory in various degrees), but as a neutral term in between, we have to put something like "continuing an action already begun, despite efforts to dissuade one from it." Like any neutral substitute, this does not have *all* the meaning of the other terms: it preserves the designation they have in common, but it leaves out the connotations that give them their emotive force.

When honorific and derogatory terms become involved in a discussion, they often have a way of bringing it to a bad end. Take the term "monopoly." In common speech, "monopoly" has two perfectly good designations: (1) complete possession of the entire supply of a given commodity, and (2) enough control over the supply of a commodity so that one can raise the price above that which would be fixed by free competition. Neither is the "right" sense; they are both convenient on different occasions, and ambiguity in their use is not hard to avoid. But "monopoly" has acquired the connotation of being against the public interest because of a careless attitude toward consumers. Therefore the term is

strongly derogatory, and nobody wants to be called a "monopolist" if he can help it.

Now consider this dialogue between A, a "small businessman," and B, a "big businessman":

A: "There is no real competition in your industry; you have a monopoly."

B: "I do *not* have a monopoly; 19 per cent of the goods in my industry are produced by small, independent businesses."

A: "But you produce the other 81 per cent; you could keep up the price above the level of free competition. That's monopoly."

B: "But I *don't* keep up the prices; I try to cut them."

A: "I didn't say you *do;* I said you *could.*"

B: "But, *that's* not monopoly! Monopoly means *absolute* control; that's the *real* meaning of 'monopoly.'"

A: "That's *not* the real meaning; you're just quibbling."

B: "*You're* quibbling: I say, in the strict sense, I'm not a monopolist."

It's clear that A and B agree perfectly that B has a monopoly in sense 2, but not a monopoly in sense 1. Why don't they stop quibbling, make the distinction, and simply agree to use the words in the same way? B could say:

> "Well, let's not argue about words. Let's call absolute control 'monopoly,' and sufficient control to keep prices up, 'semi-monopoly'; then we can agree that I have a semi-monopoly, and go on from there."

If B doesn't do this, it is probably because he is anxious not to have the stigma of "monopoly" (or even of "semi-monopoly") attached to his business in any way. But A is just as anxious to attach it. Therefore, the two cannot find any way of using the term that will not seem to be a victory for one of them.

Now, it is clear that A and B are not *merely* arguing about words; they *do* disagree about whether "semi-monopolies," including B's business, are in the public interest or not. But they can't get on to this important question, or even realize what *is* bothering them, so long as they simply hurl the term "monopoly" back and forth. They need more neutral terms; B, for example, can say:

"Well, let's drop the term 'monopoly.' Let's call my business 'competitive to a limited degree'; then the question is: Is it to the public interest that my business should be so?"

The function of the neutral term, then, is to stop the name-calling and help to focus attention on the real issue. Both disputants can agree to say that B's business is "competitive to a limited degree," because this term doesn't commit either of them to more than he wants to admit. And both disputants can agree that the question is whether limited competitiveness is in the public interest. They will both still feel as strongly about the matter as they ever did—but their feelings will not block communication.

A CHECK-UP QUIZ. On each of the following lines there is an *honorific* term and a *derogatory* term. In between them, write a term that has a similar designation but is *fairly neutral.*

Honorific	*Neutral*	*Derogatory*
1. Exposing radical un-American activities	_____	Red-baiting
2. Consultant on production engineering	_____	One of those efficiency experts
3. Informant of the police	_____	Stool pigeon
4. Our platform of principles	_____	Their party pronouncements and promises
5. Bill permitting the President to appoint younger and more progressive Justices to the Supreme Court	_____	Court-packing bill

RECOMMENDED FOR FURTHER READING: Hugh R. Walpole, *Semantics.* New York: W. W. Norton, 1941, ch. 2. S. I. Hayakawa, *Language in Thought and Action.* New York: Harcourt, Brace and Co., 1949, chs. 7, 8, 11, 14, 15.

§22. EMOTIONAL APPEALS

Terms with marked emotive force (positive or negative) make up our vocabulary of praise and blame, glorification and vilification. They are the means by which discourse makes a strong appeal to our emotions. We shall use the term "emotion" in a fairly popular sense. Feelings like fear, hate, and love are usually called "emotions" because they are rather *specific*. They are directed toward an object; there is fear of fire, of poverty, of tigers, of revolution. They involve some degree of belief: that fire burns, that tigers bite, that revolutions produce a redistribution of property. The variety of emotions to which discourse appeals is, of course, considerable. But it will be useful for us to label briefly six very common types of emotional appeal. They are not sharply separable, but it is important to be aware of them when they turn up. Note that they operate through words with strong connotations, and also that they depend a good deal upon suggestion.

1. *Identification with audience.* "You and I are just plain folks . . . . we understand each other . . . . we ain't gonna let them fool us. . . . ." By such phrases as these, a speaker seeks to make us identify ourselves with him, to feel friendly toward him, and to trust what he says. What he *suggests* is that he has our true interests at heart; but the only evidence he gives is that he dresses like his audience, uses colloquial grammar and diction, and speaks in a hearty and confidential manner. He suggests that he is "one of the boys," a "man of the people," a "great Commoner," and so on through many variations. The speaker uses identification as an *emotional appeal,* instead of giving *reasons* (say, by quoting from his record in Congress) for believing that he has the interests of his audience at heart.

2. *Flattery.* "Your great state of Oregon . . . . your lovely New England village . . . . our country, the greatest in the world." By such phrases as these, ranging from the gentlest pat on the back to the wildest flag-waving, the speaker makes us feel pleased with ourselves, with our possessions, our achievements, or our heritage. What he *suggests* is that he is well disposed toward us, and also that he is particularly smart because he recognizes our virtues. But he does this only by catering to our trained responses,

our smugness, our self-satisfaction, or our legitimate pride in our work. The speaker uses flattery as an *emotional* appeal, instead of giving *reasons* for believing that what he praises is really praiseworthy.

3. *Alarm.* "A cloud is on the horizon . . . . Asiatic hordes . . . . the Yellow Peril . . . . a world laid waste by atheism and anti-Christ . . . . crime waves sweeping across the nation." By calling up such spectres, the speaker seeks to make us feel unreasonably afraid. What he *suggests* is that the policy he opposes will inevitably lead to these fearful consequences; but he does not stop to *prove* that these consequences will follow. He merely makes the consequences so frightening that we will be unwilling to try any policy even remotely suggestive of the possibility of such consequences. So with the advertisements: very often they don't give reasons to show that we will lose our jobs, or be left alone to sulk at beach-parties, or be laughed at by our guests—they merely try to make us so unhappy at the very thought of these things that we will do anything to avoid them, even if we have no good reason to believe it will help. This is using alarm as an *emotional appeal,* instead of giving *reasons* for believing that the consequences will actually follow, and that they are undesirable.

4. *Appeal to pity.* "Those unhappy people . . . . the homeless of the world . . . . a child torn from his mother's arms. . . . ." By presenting us with scenes about which we are naturally inclined to feel sad, the speaker seeks to make us feel unreasonable pity toward those whom his policy is supposed to help. A story can be a "tearjerker" even when we don't believe it really happened; and once our sympathies are aroused, we are more open to subtle suggestion. What the speaker *suggests* is that those people are really deserving of pity, and that his policy will actually help them. But he does not give any reasons for these statements; again, he hopes that the very strength of our sympathy will make us willing to try any policy that is vaguely associated with charity, generosity, and an honest desire to help. If the bill has the word "housing" in its title, and if its preamble makes well-worded references to "homeless veterans," "the ill-housed," "tearing down disgraceful slums," perhaps we shall read no further. Yet maybe further down in the bill these purposes are so hedged with restric-

tions that the effect of the bill is nullified. This is appealing to pity, instead of giving *reasons* for believing that the people need help, and that the policy recommended will actually help them.

5. *The argument from illegitimate authority.* "As the atomic scientists say . . . . as great men of the past agree . . . . as I was taught at my mother's knee. . . . ." By such appeals to authority, by invoking our willingness to be guided by those who really know more than we do, the speaker seeks to bolster up his claims. What he *suggests* is that the authority he quotes is a legitimate one—that is, one whom we have good reason to trust on the matter at hand. But his appeal is based on the hope that we can easily be led to transfer the reverence and respect we may feel for an authority on one matter to other matters on which he is not an authority. Thus our reasonable affection and respect for doctors and surgeons has made them a national symbol of authoritative guidance on a host of irrelevant questions, and the advertising pages are peopled with men in white brandishing stethoscopes or test tubes. They are quoted on psychology (though they may not have been trained in this field), on cigarette-smoking (though they may have done no research on it), on economics, on ethics, or on international affairs.

A speaker with a certain amount of prestige, based on a high batting average, a Hollywood contract, or a Ph. D., uses the same appeal when he poses as an expert outside his own field. And if he merely repeats his view, over and over again, in a confident tone, the repetition will go far to suggest that his view is really authoritative. But a speaker is not relying on illegitimate authority when he gives *reasons* for believing that the opinion he quotes was reached by someone (*a*) who had access to the relevant information, (*b*) who was capable, by training and ability, of thinking about it, and (*c*) who was fair and unbiased in his thinking. For these are the marks of a *legitimate* authority.

6. *The ad hominem argument.* "My opponent says that we should return the municipal garbage-disposal plant to private hands. But why does he say this? What are his underlying motives? Could it be that he and his friends want to get in on a profitable little monopoly?" We all know how hard it is to keep personalities out of a serious discussion. The *ad hominem* argument (sometimes

called "poisoning the well") is perhaps the most natural emotional appeal. The speaker seeks to discredit the character, motives, family, friends, pronunciation, grammar, or some other characteristic of the person who disagrees with him. The argument is not "to the thing" (*ad rem*: to the statement at issue), but "to the man" (*ad hominem*). It ranges from mild ridicule to sharp invective; but the principle is always the same. The speaker *suggests* that if something is wrong with a person, then what that person says cannot be true.

Now, obviously, the most villainous and despicable character in the world can say that fire is hot and that statement will still be true. But by arousing mistrust in the *source* of the statement, the *ad hominem* arguer hopes to make us reject the statement itself. That is his technique. Of course, when a witness is giving *testimony* in a trial, the question at issue is, precisely, the reliability of the witness. Here it is legitimate to impeach the evidence by raising doubts about its source. The appeal is *ad hominem* when the question at issue is the *truth* of a statement, but we are asked to disbelieve it because we do not approve of the person who uttered the statement.

It would be a mistake to condemn, or even to mistrust, all discourse that contains these emotional appeals. A statement can arouse emotions and still be true. Some facts are delightful, and some facts are damnable. But to get at the truth about anything, you have to do something more than feel strongly about it. You have to think. That is why you should be able to recognize these emotional appeals. It is the only way you can, so to speak, back off from a discourse and get a little perspective. But that takes us to the following section.

A CHECK-UP QUIZ. In the following editorial there are examples of each of the six types of emotional appeal described in this section. Underline them, and label them in the margin: Identification, Flattery, Alarm, Pity, Illegitimate Authority, *Ad Hominem*.

It's Time for Action

We're for the peace-time draft, and we're for universal military service—and, by and large, we think our readers (whom we've

found, over the years, to be a pretty cagey bunch) are too. Friends, you have listened—like us—to all the arguments against these measures, and frankly we're all a bit bored. Especially as they come from men, some of whom probably haven't very unselfish motives. We know the people who don't want Russia to get hurt!

Russia! There's a name to conjure with! That Colossus of mysterious Asiatic peoples—whose very psychology is strange to Western minds. On this newspaper we go for the plain and simple truth that anyone can understand. We hate big and fancy words. And we're thinking of those young men who died in the last war.

And we're thinking of the warnings of that very able columnist, Wallace Winton, whose "inside news" is famous around the world, that we are "on the verge of war," as he has said, over and over, on his Sunday night broadcasts for the past two years. It's time for action!

RECOMMENDED FOR FURTHER READING: Robert H. Thouless, *Straight and Crooked Thinking.* New York: Simon and Schuster, Inc., 1932, ch. 5. L. Susan Stebbing, *Thinking to Some Purpose.* Pelican Books, chs. 5, 7, 8.

§23. FEELING AND THINKING

The emotional appeals made by language with strong emotive force are not in themselves wrong; they involve no fallacy. But they set up a kind of smoke screen before the reader or listener, and they can make it very hard for him to get at the real substance of the discourse. That is how they help to disguise any fallacy. But the question always is: what does the smoke conceal? Behind the screen, when we penetrate it, we may find important conclusions supported by compelling reasons, or we may find nothing sensible at all.

Here is a pair of passages about equally rich in emotive force:

It burns me up to see those dummies sitting there in Washington and saying everything will be all right, sure, the market will adjust itself, sure, we'll have prosperity

Those politicians in Washington have a lovely time yammering about what they're going to do about inflation: but they haven't brains enough to do any more

and all the rest of it, while meat prices go up and up, and every raise in pay you get is wiped out before you even get it. Oh, yeah, everything will be rosy—for who? Remember the last depression—the bonus marchers, the apple-sellers, the bread lines. Those politicians really are the damnedest bunch of idiots! Why can't they put in price control? That's what we need.

than yammer. What a bunch of dummies! Can't they see what's happening to prices—to meat, to milk, and bread, and butter? Can't they stop this senseless spiral before the market breaks, and the bread lines come back again? Any dope can see that if people have to spend all their savings just to keep alive, this is going to dry up that stream of investment the economists are so proud of. Where will we be then, when business stops expanding, and the lay-offs begin? What a mess!

Looking over these passages from the point of view of this chapter, we can see that they contain similar invective, and similar appeals to fear, called up by references to the depression of the 1930's. But when we recognize the emotive force, and then look deeper into the meaning, we find a significant difference.

Each passage states or suggests that price control will prevent depression, and should be instituted by Congress. But the first passage gives no reason—or, at least, no very definite reason—for these statements. If it is an argument, it is just barely one. From the second passage, however, we can dig out something that is definitely an argument: rising prices will use up savings, and lead to a decline in investment, which will in turn lead to a business recession; *therefore,* to prevent depression we need government control of prices. Now, of course, the question is very complicated, and it may be that the argument is not a good one. That doesn't matter, for the moment. The point is that it *is* an argument; it gives a reason, and the reason is worth considering. The trouble with the first passage, then, is not that it makes an emotional appeal, but that it *doesn't* give a definite reason.

The terms "reasoning" and "emotion" are often used as though these two processes couldn't go on in the same mind at the same time. But if human beings could not feel pretty strongly about something and still be able to think reasonably about it, they could

never deal with a crisis. You are bound to feel stirred when your house is on fire, when you are in love, or when your country is attacked, but that doesn't imply that you are *necessarily* going to think ineffectively and act foolishly. Nevertheless, it is also true that feelings often have an important effect in making our thinking less effective than it could be. Feelings do get in the way of straight thinking. Our problem here is to see *how* they get in the way.

Suppose you pick up a book on *The Situation in China,* and on the first page you find the following:

> PREFACE
>
> Though most of the American public are unfortunately still pretending to themselves that Asia doesn't exist, an increasing number of thoughtful and intelligent citizens are aware that the fate of the United States is bound up with the fate of Asiatic nations, and particularly China. These far-sighted citizens are eager for information about China, though reliable information is scanty; they see the importance of being well informed.
>
> I am writing primarily for those of you who have come to realize that the problem of China is our problem and the world's problem. You who have, or will have, the best understanding of China will be the real guardians of America's Asiatic policy. It will be up to you to see that this policy is wise and firm.

This isn't as subtle as it might be, but let's consider it. If you read this preface carefully, you should find it quite flattering. It suggests that you are "far-sighted," "thoughtful," and "intelligent." Suppose the preface succeeds in flattering you—how do you think it would affect the way you read the book? Perhaps it will make you more sympathetic. Perhaps you will read the book with greater attention, and with the expectation that it must be pretty good, since it was written by someone who understands and appreciates you so well.

There is no reason why an author shouldn't be happy if he can produce these feelings in a reader. *But*—and this is a big qualification—if this preface affects you, it might also make you less critical of the book. If you are looking for the good things in the book, you will more easily overlook, or more quickly forget, its mistakes. Where the arguments are weak, where there is vagueness or ambiguity, your willingness to give it the benefit of the doubt

may blind you to these faults. And *these* feelings would prevent you from studying the book as carefully as you should.

To see how this works, we shall compare it with the opposite case. Suppose the book began, instead, with the following:

PREFACE

Whenever I return from one of my extensive trips through China and talk to the average American citizen about what I have observed and learned, I am astonished at the ignorance and willful blindness I find everywhere. Few Americans are prepared to make an effort to understand what is really going on in Asia (though this is of vital importance to American foreign policy and to the future of the world)—and I have little hope that my readers will come to this book with anything but the most distorted ideas about China.

Whether you know it or not, China's fate is bound up with our fate. The American man in the street, even if he shuts his eyes and pretends that Asia doesn't exist, is going to wake up to a rude shock when he finds that China is *his* problem. Painful as it is to admit it, you will have to accept this burden; and the sooner the better. If you have never been to China, it will be hard for you to grasp the complexities of the Chinese situation, but I will try to explain them in words of one syllable that anyone should be able to understand.

This would be a peculiar way for a writer to start a book. Even if you tried to be calm, you would probably be mildly insulted by its condescending tone, its suggestion that you are "ignorant," "willfully blind," unwilling to accept responsibility, and not very bright. Now, suppose the preface succeeded in annoying you—what effect would that have, do you think, upon the way you read the book? You would probably be out to trip the author up; you would enjoy catching his mistakes, and you would therefore look more carefully for them. It would be fun to humble a writer who is so smug and superior.

Up to a point, this critical attitude would be a good thing. You *should* be looking carefully for mistakes. The trouble is that your impression would be one-sided. You might magnify small mistakes into great ones. You might miss the better and more important things; even if you didn't miss them, you would forget them more

quickly, because the author's tone left a bad taste in your mouth. It would be hard for you to make a balanced judgment about the book, because all along you would be thinking more about the *author* than about what he is saying.

From this simple example we can get some insight into the way in which feelings affect thinking. The effects can be summed up under two general headings.

First, feelings *narrow attention*: they limit what is grasped and remembered, and therefore they narrow the scope of what is taken into account in thinking. In this way, feeling becomes *prejudice.* Prejudice is not sheer feeling; it consists in making up your mind (thinking a conclusion to be true) on the basis of a very limited selection of the relevant facts, and then being unwilling, or even psychologically unable, to consider contrary evidence. This tendency of feeling is the source of the fallacy of *oversimplification,* which we shall discuss in the following section.

And, second, feelings *shift attention*: they get thinking off the point. Feelings help us to slip from one point to another, to digress without realizing it, to lose our sense of direction and purpose. If there are two different things we feel very strongly about, we easily fail to discriminate between them—our sense of distinctions is blurred. "Red herrings" are appeals to emotion deliberately used to get people away from the point at issue to another point, which they feel is somehow relevant but which is really not relevant. From this tendency of feeling to shift attention comes the fallacy of *distraction,* which we shall discuss in the following section.

A CHECK-UP QUIZ. Check those passages that contain *argument*—that is, that give, either through statement or suggestion, a fairly definite (not necessarily *good*) reason for what is asserted.

1. We know you housewives have to be pretty smart! We know you have to figure things out carefully, too. *You* know a good thing when you see it. Why not try FLUFF, the very latest thing in cake mixes. It's for those who really care!
2. "After life's fitful fever they sleep well." You want *your* Loved Ones to sleep soundly in their Final Resting-place. After they have passed on, you want to express your love and sorrow for them. In Rest-ever Grounds we have prepared

the ideal place for their reception. Call us or write for our lovely descriptive booklet.

3. That man [in the picture above] is going places! He's on his way to see a business prospect. And the prospects are good, because he knows what he's doing. He wears a Snark Shirt—styled for eye-appeal and tailored for comfort. You'll be a spark in your Snark!
4. You know what happened when Luther put up his ninety-five theses in the church at Wittenberg. He set off an advertising campaign that went around the world. Now, we don't compete with the Reformation—and we don't go around the world. But the *Journal-Star* has an accredited circulation of 935,000 (Sunday, 1,120,000) and we *do* go around Carroll County. Put your advertisement in the *Journal-Star* and get results!
5. We do not believe in expensive and blatant advertising, nor does Cook Brothers display low-priced clothing or accessories. We would respectfully call the attention of discriminating purchasers to the fact that we have recently received a shipment of Highland Tweed, which we are prepared to tailor for those who wish, and can afford, the best.

RECOMMENDED FOR FURTHER READING: Robert H. Thouless, *Straight and Crooked Thinking.* New York: Simon and Schuster, Inc., 1932, chs. 6, 11.

§24. OVERSIMPLIFICATION AND DISTRACTION

As everyone knows from his own experience, strong emotions are often fatal to intelligent discussion. The higher the feeling runs, the greater the chance that relevant material will be left out of account by the disputants, or that irrelevant material will be dragged in to confuse them. The terms "relevant" and "irrelevant" are often used rather loosely. But perhaps we can make them specific enough for our purpose if we adopt the following definition: by "the facts relevant to a given conclusion" we shall mean those facts which, if known, would be good reasons either *for* or *against* the conclusion.

When feelings are aroused in a dispute, they may have at least the two important effects mentioned in the previous section. By

concentrating attention on certain facts, they may lead one or both of the disputants to leave out of account some other relevant facts: this we shall call "oversimplification" (whether intentional or not). Or, by shifting attention in the middle of a dispute, they may lead one or both disputants to introduce facts that are not relevant: this we shall call "distraction" (whether intentional or not).

A. *"Oversimplification"* is a broad term covering a number of fallacies, including many that have no special name. The black-or-white fallacy and the argument from analogy are examples. All reasoning may go from the simpler to the more complex, and, of course, we can never be certain that we have considered, or even that we know, all the facts relevant to a particular problem. But often it is plain that a thinker is ignoring many obvious aspects of the problem he proposes to solve, though he pretends that he has hold of the problem as a whole. Such a person is guilty of what we may call "Capsule Thinking": that is, the kind of thinking that constantly tends to oversimplify by the use of stereotyped formulas. (Some call it "Potted Thinking," and some call it "Tabloid Thinking.")

In the heat of a dispute, someone is likely to say that he has "*the* simple, unvarnished truth," or that "what it all boils down to is . . . .," or that "the issue is plain and clear." Statements introduced by such phrases are open to justifiable suspicion. Maybe the issue *is* plain and clear. Maybe it can be successfully "boiled down"—but on the other hand, maybe the vitamins will be boiled out of it. A person in the grip of a strong feeling is prone to make statements without qualification, to overlook important distinctions, and to think in terms of limited alternatives.

"This is the question," says the Capsule Thinker: "Shall we put government into business, or shall we let private initiative be free to create real wealth?" The most reasonable answer may be that these two possibilities are not the only ones. There are usually more than two sides to a question. When you think of all the kinds and degrees of activity that can be designated by the term "government in business," the question, as presented, is hopelessly oversimplified. But if you feel strongly about the matter, it's much harder to make the reasonable answer than it is to throw caution to the wind and

argue the question as it stands—which may put you at a serious disadvantage.

The Capsule Thinker is easily recognized. His discourse is full of slogans, resounding catchwords, and tidy, or vicious, half-truths; he likes to put things "in a nutshell." He has ready answers for the most delicate political questions, but his method is to tell an anecdote or elaborate a metaphor. Complex international issues usually remind him of the one about the two Scotchmen, or the one about the long-winded after-dinner speaker. He makes neat pigeonhole divisions of things: to him, people are either sheep or goats. He presents issues in terms of bold and extreme choices—religion *or* Communism, victory *or* defeat, militarism *or* pacifism. He is always on the lookout for a patent medicine or a pat political solution.

In a dispute, the oversimplifier likes to set up a straw man and knock it down. He takes the weakest arguments for his opponent's view, states them in an absurd or extreme way, and then pretends to dispose of the issue by refuting them easily.

> A: "On the whole, I believe it would be a good idea to decentralize both government and industry, and limit their power."
> B: "Why, you're nothing but an anarchist: you don't believe in government at all! I know that anarchists think that we don't need strong central government, because everybody is really pure in heart and would live together like lambs if only they were let alone. But this is ridiculous."

In this way, oversimplification makes for a one-track argument with a dead-end. The sensible answer is: "That's not the whole story."

B. *"Distraction"* is a broad term covering all the different ways in which a dispute can get sidetracked. It includes equivocation and quibbling, as particular cases, and also some forms of slanting. There are so many ways in which a dispute can slip from the point that we could hardly classify them. But if you keep your eye on the emotional appeals, you will be likely to notice when the distraction occurs.

> A: "I want to see small business get a break, so that oppor-

tunity will remain open for everyone. The government should help qualified people who want to start small businesses."

B: "I see. By the way, you're a small businessman yourself, aren't you?"

A: "So what?"

B: "Well, I don't suppose the fact that you would be glad to get help from the government has anything to do with your proposing this? . . . ."

A: "Of course not! I'm disinterested! In fact, my business is pretty big, and well established. I can prove it to you. Look, here are the figures. . . . ."

This is just what happens over and over again. A vague, but straightforward, statement is made by A. B answers with an *ad hominem* argument. Then comes the shift. A gets so annoyed by the imputation of selfishness and intellectual dishonesty that he completely forgets the point at issue. He should say, firmly, "That's *not* the point; even if I *am* selfish—which I do not admit—what I say is still true; disprove it, if you can." But, instead, he hits out at the accusation that has insulted him and allows himself to be drawn into a *different* dispute—over the size of his business. And no doubt B is very happy to see the original point dropped; no doubt B is much better prepared to argue the irrelevant question than he was to argue the original one. But whether B is guilty of deliberate evasion, or simply doesn't know any better, it is still Grasshopper Thinking.

The Grasshopper Thinker is also easily recognized. He frequently gets diverted from the point, or he diverts others. But he is often hard to cope with in a dispute. If he tells a good joke to cover up the diversion, it's awkward to spoil the fun by insisting that he return to the subject. If his diversion is an illegitimate appeal to an obscure "authority"—Professor Blutz-Blotcher, the great Swiss economist—it puts you at a disadvantage to admit that you have never heard of the authority. If the diversion is full of learned-sounding terms, you hate to admit that you don't see any connection. Moreover, you don't want to be arbitrary about the boundaries of relevance; we can't tell without examination whether a given fact may be indirectly relevant or not. Even in the most obvious cases, it is hard to know what to do.

A: "Whatever may be said in favor of General Franco, impartial observers are agreed that his assistance to Germany in World War II cost the United States a great number of lives."

B: "Bosh! Why, General Franco has made Spain the country in the world most free from the scourge of Communism!"

Beyond a certain point, it's not worth while to continue to dispute with the Grasshopper Thinker.

Any of the six emotional appeals described in §22 can be used to distract an arguer from one point to another. Even a man who appeals to illegitimate authority may be happier to argue about the value of the authority than about the question originally raised. In the same way, of course, any of the emotional appeals may be used to cover up oversimplification. Hence the importance, even when you are emotionally aroused, of *labeling* the steps of a dispute. Where there is oversimplification or distraction, you must see what is happening to the thinking, and you must spot the emotional appeal used to make it happen. Above all, these examples underscore what has been emphasized from the beginning of this book: the importance of getting the point, the whole point, and of *sticking to the point* once you get it.

A CHECK-UP QUIZ. Underline and label (in the margin) the points of oversimplification and distraction in the following dialogue; in each case also label the emotional appeal involved.

A: "I'm definitely in favor of limited Federal aid to education, because some states simply cannot afford to give all their citizens good education, and we all benefit from educated citizens."

B: "Maybe those states can afford it, but the people just don't care enough about it. How do we know?"

A: "We don't *know,* perhaps; but it is a reasonable inference. We do know that some states have a relatively low average income, and it is probable that they cannot afford as much for education."

B: "But why should the rest of us have to pay to educate a lot of hill-billies who are better off milking cows? Look—I know education is important, but you can't get it by money alone. Just having the Federal Government spend more and more, endlessly, on education, won't necessarily give the people good education."

A: "Of course money isn't *sufficient:* but Federal funds would *help* the states to provide good education, and it seems that the education can't be provided without funds. Good teachers have to be paid good salaries."

B: "Oh, *now* I see what's behind all this! You want to get more teachers a slice of that old Federal payroll. You're a teacher yourself, aren't you?"

A: "Yes, I am, but I don't see—"

B: "Oh, you get my point, all right—naturally the teachers are in favor of Federal aid to education—they have their lobbies in Washington, like anyone else. Oh, I know they're not the *only* ones in favor—there are plenty of people who think any problem can be solved if you just get the Federal Government to extend its centralized, bureaucratic control into another department of our private lives."

A: "That's not fair! I don't want centralized *control.*—I just want *aid.* Federal aid doesn't necessarily mean Federal control."

B: "But there's just the fallacy. The man that pays the piper calls the tune. It's as simple as that. Maybe you don't realize it—I don't mean to imply that you're a Communist, or anything—but can't you just picture the long tentacles creeping out through our sturdy public-school system—the growing thought-control—the Federal Government telling everyone what to teach —the end of academic freedom?"

A: "It's an appalling picture, but I don't see why it has to follow. After all, we have state-supported colleges with plenty of academic freedom; government subsidy hasn't always meant the end of freedom of teaching."

B: " Oh, sure, we have state colleges. Yes, and what good does it do, I want to know? Do you think that college makes those students any more moral, or any better at earning money—aside from a few doctors and scientists? You talk as though a college degree were everything—but fortunately in this country we haven't got around to thinking a sheepskin or a gold key is the sure sign of a person's worth. What's the value of education anyway?—I don't think it has much, beyond teaching people how to read and write and figure. It's character that counts!—and college can't teach that. . . ."

RECOMMENDED FOR FURTHER READING: Robert H. Thouless, *Straight and Crooked Thinking.* New York: Simon

and Schuster, Inc., 1932, chs. 3, 7. L. Susan Stebbing, *Thinking to Some Purpose.* Pelican Books, chs. 3, 4, 6, 13.

§25. CONTROLLING EMOTIVE LANGUAGE

Words with strong emotive force present one problem for the reader, and another problem for the writer. But the writer can solve his problem—how to make his meaning clear and unambiguous—only by being a critical reader of what he writes.

In your own writing, you will often have to decide what to do with words that are charged with feeling. There are a number of "taboo-words," whose emotive force is of a kind that gets them barred from polite society. And there are libel-words, which it is criminal to use; for example, courts have ruled it libelous to call someone a hypocrite, paranoiac, drug addict, deadbeat, scoundrel, perjurer, or ignoramus. But the greatest difficulty is that when you start thinking about an important social problem, you find that most of the handiest terms to use have taken on strong emotive force, and it is hard to know how to handle them.

It is not the business of this book to teach you how to fool other people; nor is it to persuade you that you should *not* fool other people: the rightness or wrongness of lying is a subject in itself, but it's not the subject here. But we shall assume that you don't want to fool yourself, if you can help it. You don't want to think you have good reasons for believing what you believe, when in fact you do not have good reasons; and you don't want to think you are giving good reasons for a conclusion, when in fact you are not. This is just where the tendency to employ overheated discourse is most dangerous.

Up to a point, the emotive force of a term can be *neutralized* by the context. Even so inflammatory a term as "Communist" loses a good deal of its violence in the hands of a historian of the Russian Revolution, say, if he keeps the context fairly plain and therefore gives the whole discourse a calm and temperate tone. If you find it highly convenient to use a term that you know is likely to arouse feeling, but that you want to neutralize, you may be able to pack it in asbestos for safe handling by keeping the context cool; or you may have to give an explicit warning to the reader that he is not to be misled by the emotive force, if he can help it.

Still, some terms have become so highly charged that they can't be neutralized very easily or very thoroughly. And that's why it is a very good idea to cultivate a certain amount of *flexibility* in your vocabulary. You should not get too attached to, or dependent upon, particular terms that are highly charged. If you find that you can't discuss proposals for a Federal plan to provide a system of universal health insurance, without using terms like "socialized medicine" or "surgical operations performed by bureaucrats"—if you find that you can't talk about American foreign policy without constantly using terms like "appeasement," "aggression," "secret diplomacy"—then your thinking is too dependent upon particular words. Your thoughts are running in little polished grooves, well-worn by feelings. You are bound to oversimplify, and you are going to be easily distracted from the point.

Take the term "socialized medicine" for more careful analysis. First, it connotes a number of things that most Americans disapprove of, but these connotations are hard to sort out clearly. Second, it is exceedingly ambiguous, since people use it to refer to several widely different proposals. Third, in so far as it designates anything very specific, it clearly means the elimination of private practice in medicine. Now, none of the groups that have entered the dispute over "socialized medicine" has seriously considered abolishing private practice, so this term is strictly misapplied. After you think over the term in all these aspects, you may well conclude that it is much safer, if you want to think straight about Federal health insurance proposals, not to let yourself get tangled up in the muddy meaning and stormy feeling of this term.

Whenever you think it safer, then, you had better cool off your discourse by substituting *neutral* terms for honorific and derogatory terms, but without leaving out anything you really want to say. We have not used the term "propaganda" at all. A good deal of what we have said might be put under the heading of "propaganda analysis." But the term "propaganda" has become so charged with feeling that it is very difficult to neutralize. As a last resort, then, if you cannot neutralize a charged term by finding a satisfactory substitute, you may have to invent your own technical term and introduce it by means of a special definition. But this takes us to the problem of the following chapter.

Outline-Summary of Chapter 5

By and large, words that arouse strong feeling, whether of approval or disapproval, towards the things they denote, do so by means of their designation or connotation. Thus, while "an unusual capacity to consume food" is fairly neutral, "a good appetite" has positive emotive force, and "greediness" has negative emotive force. Such words interfere with clear thinking when they are employed in a discourse that makes an appeal to emotions instead of presenting a good and explicit reason for its assertions. Among these appeals are:

1. The appeal to illegitimate authority: "The distinguished Senator says there is a chemical difference between Caucasian and Negro blood; therefore, there must be"; and
2. The *ad hominem* argument: "That chemist says there is no chemical difference between Caucasian and Negro blood, but he is a Socialist; therefore, what he says must be false."

Such appeals work only when they succeed either:

a. In oversimplifying the point at issue in a dispute, by making the audience forget that relevant facts have been left out of account. ("We must not admit any more displaced persons from abroad. Why, some of them might be radicals! That settles it!") or

b. In distracting the audience from the point at issue, by introducing irrelevant facts or issues. ("We must not admit any more displaced persons from abroad. Why, you don't see Russia taking in a lot of hopeless human flotsam and jetsam.")

Exercise 21

List each of the following groups of terms in the order in which they range from *most honorific* to *most derogatory.* If two terms are about equal in emotive force, put them on the same line. Remember that you are making a general estimate about the effect of these terms upon most Americans at the present time. But if you find any terms that you think would affect two large groups in very different ways, put a circle around them and leave them out of your list.

1. Lush, heavy drinker, pathological drinker, drunkard, alcoholic, sponge, old soak.
2. Manufacturer, industrialist, commercial tycoon, capitalist, robber baron, big businessman.

3. Dame, woman, babe, broad, lady, floozie, frail, chick, jane, gal, tomato, belle.
4. Inflation, runaway prices, market adjusting itself upward, rise to higher prices, vigorous activity of price structure as incentive to investment.
5. Stop-the-Communists bill, bill driving Communists underground, anti-Red bill, thought-control bill, bill making it unlawful for Communists to conceal party membership or hold appointive offices in Federal Government.
6. Agreement, settlement, covenant, compact, accord, boondoggle, deal.
7. Poor people, paupers, lowest-income group, families with smallest income, families with the lowest standard of living, people with very little earning power.
8. Failure, flop, mess, lack of success, miscalculation, lapse.
9. Went mad, cracked up, became insane, acquired a mental disorder, suffered a mental breakdown, became psychologically maladjusted, turned into a loony.
10. Obscene book, nasty book, shocking book, lewd and lascivious book, pornographic book, book containing objectionable passages of a sexually provocative nature, book that is frankly and even brutally revealing, book with daringly explicit and brilliantly candid treatment of sexual problems.

Exercise 22

Cross out those terms in the following letter that have marked emotive force. Write in approximate synonyms that are more neutral.

To the Editor:

In his carping review of Mr. L. H. Bauer's book, *Private Enterprise or Government in Business,* last Sunday, your science editor has finally gone too far. Instead of facing up to the paramount issue before us, he uses up most of his space picking at the author's slips. That issue is: Shall this nation slavishly imitate the British dabbling in socialized medicine—or shall we retain for our citizens the right to choose their doctors freely? Is the common man to have his dentist and surgeon hand-picked by bureaucrats, and forced upon him against his will? Will our experts in medical science have to beg their livelihood from ignorant and untrained politicians? And will our vast

public health system be dictated to by political office retainers? That is the issue.

What does political medicine mean for the American people? It means one-man medical care. The proposed bill would put into the hands of the Surgeon General of the Public Health Service absolute power over life and death. For doctors, the bill means hamstringing their work. They would work only eight hours a day, instead of being on call twenty-four hours as they are now. They would have no incentive to become skilled in their art, for advancement would depend only upon influence with politicians. For sick people, the bill means danger. Emergencies would have to wait for the doctor to come to work, and the doctor would have no personal interest in his patient.

Experience has shown that wherever the patient has no choice of doctor, the medical care is poor. Our Men in White have made us the healthiest people in the world, yet we are in peril, because of a few eager vote-getters, of bartering this unique heritage for a mess of red tape. We have no place here for foreign ideologies. Compulsory health insurance would be the last step on the road to statism. Private practice means private enterprise: let's not throw it down the drain.

J. K. L.

Exercise 23

Here are four selections from an account of events in the United Nations General Assembly, as published in the Moscow *New Times,* November 26, 1947. It is evident that they are decidedly slanted. Twelve words have been italicized because they could be taken out, and synonyms with greater emotive force could be substituted, to raise the temperature of the whole discourse. The twelve words are numbered; number your substitutes.

> In this atmosphere of rabid propaganda of hostility to the Soviet Union, the calmness and firmness of the first speech of A. Y. Vishinsky, *head* [1] of the Soviet delegation, produced a deep impression. . . . . Vishinsky spoke for 95 minutes. He was listened to with unflagging attention. After the colorless generalizations of the previous speakers, his clear-cut and forthright speech was like a fresh breeze, and at once elevated the session to the level of a genuine international forum. . . . . His auditors are *captivated* [2] by his logic, his biting irony, his wealth of argument, and incontrovertible proof. . . . .
>
> There is also Herbert Evatt, Australian Minister for External

Affairs, with his protruding paunch, which is always getting in the way of the interlocutor. He has a greasy, untidy figure, an apoplectic neck, a raucous voice, and grasping *hands.*[3] A violent demagogue with the vulgar manner of a pothouse politician, this retainer of the Anglo-Saxon *block*[4] . . . . has earned the reputation of being "the most active member of the American delegation" . . . .

John Foster Dulles is a tall, *elderly*[5] man with a stony countenance, a mouth resembling a money-box, a rosy nape covered with white down, and his legs clothed in demure narrow pants. Dulles has a muffled voice and a jesuitical habit of staring down at the feet of the man he is talking to. . . . . He introduces the American proposals with the insolence, unblushing cynicism, and *astuteness*[6] of a low-time lawyer. . . . .

And Sir Hartley Shawcross, British Attorney General, may be seen lolling in an armchair, his feet stuck out before him, *conversing*[7]. . . . . As affected in his manner as a limelight-seeking movie star, the dandified British labor aristocrat, with the red handkerchief peeping out of his breast pocket, never misses an opportunity to stress his "socialist convictions." This does not deter him from *upholding*[8] the traditional colonial policy or from defending slave trading. Shawcross has the mechanical, measured, *unhurried*[9] delivery of a typical British court prosecutor. His speeches invariably begin with the personal pronoun: "I consider . . . ." "My opinion is . . . ." *Journalists*[10] do not like him; they are *irritated*[11] by his *haughtiness*[12] and smugness . . . ."

Exercise 24

Here is a fairly temperate (that is, emotionally neutral) editorial. Your problem is to rewrite it, toning up its emotive force. Preserve as much as you can of its meaning. Use slanting devices, and substitute figurative for literal language, where you can.

The Three-*Party System*

Republicans and Democrats frequently speak of the American "two-party system"—a little as though they were once given exclusive right to represent the American people. On the whole, we think this is a bit unfair, because we believe that Third Parties have, in fact, contributed a good deal to the vitality and flexibility of our political system. This newspaper has never

actually endorsed a Third Party—because, usually, Third Parties seem to go somewhat to extremes at the beginning of their career. But many of the important measures advocated by Third Parties have been adopted, and enacted, by the two major parties, as soon as Third Party voting strength became great enough to show that a fair-sized number of people were in favor of the measure.

We think that when a party in power gets more and more secure in the possession of that power, it tends (not always, but quite generally) to become less willing to consider and try out new and progressive political ideas. And we think that when a party out of power gets more and more discouraged about getting back into power, it tends (again, generally speaking) to make more and more unreal and unworthy promises. Though these generalizations may be wrong, we believe that both major parties need the prodding of a Third Party that does not hope for office but stands for principle; and we believe that American politics has suffered a bit from the decline of Third Parties in recent decades. That's why we are, on the whole, glad to hail the rise of what may become a vigorous Third Party. Though we disagree with much of its platform, we do agree, very seriously, that this platform ought to be debated before the American people.

Exercise 25

Label each of the following arguments, first, according to the fallacy (*oversimplification* or *distraction*) it commits, and, second, according to the emotional appeal through which it operates.

1. When I read that "the devil makes work for idle hands," and when I recall that the Bible says men ought to "eat their bread in the sweat of their brows"—I shudder to think of the fearful effects of releasing atomic energy. I tell you the worst danger of the atom is, not its physical damage, but its moral and spiritual destruction. Think of a world with unlimited leisure time for all the masses, idleness forced upon them, and honest work taken from them. What mischief that will be!
2. Friends—dear friends and fellow-townsmen—the previous eloquent and facile speakers from other political parties have been giving you glowing pictures of what they say they will do if you vote them into office. You and I have listened politely. But, after all, the *real* question is not this or that minor change—but the *inward*

Spirit. What you and I have to decide—for, after all, I'm a voter just like you—is: who has the positive, forthright, community spirit? . . . .

3. . . . . They have promised to improve the water-supply, to widen Main Street, to get electricity and some fine new (and expensive) roads out to the few outlying farms—and Heaven knows what else! And, friends, they say they want to hear what *I* will do, if I am elected. Well, I'll tell them. I'm going to boost this town! Instead of criticizing the drinking water, which was good enough for *my* father, casting aspersions on good old Main Street, where we all used to play as children, and implying that our roads and electric system aren't good enough for them, they ought to get behind and push! I'm here to tell you, I *like* this town! . . . .

4. . . . . And I'm not going to try to pull the wool over your eyes, play politics, or appeal to you with a lot of promises—as my opponents have done. Promises are cheap—and obviously these fellows want—oh, my friends, how very *desperately* they want!—to get their hands on this elective office. No—I shall not stoop so low. . . . .

5. The city is shocked because a fourteen-year-old boy murders one of his playmates. But I've been expecting something like this ever since the child psychologists have had the corporal punishment of children abolished. About 3,000 years ago the wisest man in the world said a few things on the subject of rearing children: "He that spareth his rod hateth his son"; "foolishness is bound in the heart of a child, but the rod of correction shall drive it from him"; and "the rod and reproof give wisdom, but a child left to himself bringeth his mother to shame." These misguided child psychologists have a lot to answer for. There will be more murders unless they are punished along with the products of their fallacy.

Exercise 26

Here is a radio dialogue between two State Congressmen on a much-debated Education Bill just passed by the legislature. Examine it carefully for the fallacies discussed in this chapter. Underline each fallacy, and label both the fallacy (oversimplification or distraction) and the emotional appeal. Suggest ways in which one or the other speaker *should* have replied to the preceding statement.

Congressman P: "Our governor has taken a firm and public-spirited stand against the special-interest pressure groups whose

lobbies have been infesting the Capital. He has put to shame those who have been blackening the name of our great state. By signing the Beinberg-Fecker bill, the Governor has at one stroke increased state aid to education by thirty million dollars."

Congressman Q: "That's a good start. But the Public Education Association, and the Educational Conference Board, both of which have made studies of the needs of public education in our state, agree that the minimum amount needed for next year is at least twice what the new bill provides."

Congressman P: "I don't say, you understand, that these bodies are completely dominated by radicals, but obviously they're selfish, since they represent the parents who want to see their children get more education at public expense. Naturally, they want the state to spend all—"

Congressman Q: "Pardon me; I don't think they really are selfish. After all, they're taxpayers, too, you know. They seem to want to benefit, not only their own children, but *all* the children in the state—"

Congressman P: "Now you're getting away from the point. But never mind. Even if they aren't selfish—which I'm free to doubt —the fact remains that these bodies have marched up and down the State, circulating mendacious and misleading pamphlets and propaganda, making out that our state is a Tobacco Road in education."

Congressman Q: "But they never said that!"

Congressman P: "Oh, well, of course they didn't use the word, but that's what it amounted to. And our state is *not* a Tobacco Road: our educational system is progressive and up to date.— Those people are loyal, all right! They should be *proud* of what our state has done!"

Congressman Q: "Well, I'm not going to argue whether *you* or *they* are more loyal. The point they were making is that in proportion to population our State lags behind other states in the actual amount spent per pupil."

Congressman P: "Well, the records show—the records of the American Education Association—that the people of our state spent by all odds more on the education of our children than any other state in the union. We can't let anyone spoil the state's good name; what will it do to our good will, and to business, if people get the idea that we don't treat our children right? People

shouldn't talk like that; it worries me. Why, as the Governor said in his message, 'The figures are $234 per pupil in the State, compared with $180 in the next highest state'—that's amount *per pupil.*"

Congressman Q: "Something is wrong here somewhere, but I can't put my finger on it. . . . . Never mind; the question we started talking about was whether the thirty million is enough, in these days of rising prices, to give our children the education they need."

Congressman P: "By George, it's the largest increase in the history of this state! Thirty million! Now, you've had experience in these matters—you can figure that out. You did some very good work on that Health Bill last year, if I may say so, and you know how careful we have to be in spending state taxes. You can see—"

Congressman Q: "Thanks for the compliment; but I didn't deny the amount was *large;* I said it wasn't *enough.* There will still be city schools with overcrowded classrooms and underpaid teachers. And there will still be rural schools with very poor equipment, underpaid teachers, and school buildings too far from the children's homes."

Congressman P: "Oh, well, sure, of course it's too bad. But we can't have everything! You talk as if you wanted a Utopia, some kind of ideal society where everything would be perfect. But I'm more practical. I feel sorry for the poor taxpayers without children—they have to pay for educating other people's children. It seems to me they don't get the break they deserve. After all, why should *they* have to pay for other people's children? Do you think that's fair?"

Moderator: ". . . . I am sorry to interrupt, but it is time to bring this very interesting discussion to a close. . . . ."

*

6

DEFINING YOUR TERMS

THE FALLACIES we have discussed in the last four chapters show that it is almost impossible to think effectively without using language well. When we start working with words, trying to say what we know and to know what we say, we run into specific obstacles. But, as Humpty Dumpty said, "The question is, which is to be master—that's all. . . . . When *I* use a word," he boasted to Alice, "it means just what I choose it to mean—neither more nor less." Perhaps we can't achieve such a complete mastery over words as Humpty Dumpty, who makes "glory" mean "a nice knock-down argument." But, with a certain amount of care, we can persuade them to do the job we want them to do.

We ordinarily think in, and by means of, words. And clear thinking is in good part a matter of control over the words we use. When the control is lax, words become obstinate and recalcitrant. Some of their most useful qualities—their versatility of meaning, their richness in connotation, their capacity to awaken imagination and arouse feeling—make the most trouble. For these are the qualities that lead to ambiguity and equivocation. We have seen that a good deal can be done to control words by careful management of their contexts. But sometimes that is not enough. Then we need *definitions.*

From a practical point of view, in the ordinary affairs of life, a definition may be considered as one of the writer's last resorts. This is not so for the mathematician or philosopher or scientist. But the rest of us usually define the words we use only when we see that this is the shortest and most economical way of being clear to ourselves and others. Still, there are a great many words in our language that it is hardly ever safe to use without a definition. These are words that have many meanings differing in subtle,

though important, ways. And among these words are many that we must use for things it is of the highest importance to be clear about: for example, "freedom," "democracy," "rights," "duties," "science," "happiness."

A good reader, then, must know how to tell whether a definition he runs across is a good one or not. And to be adequate to the demands of ordinary communication, a writer must know *when* he needs to give a definition, and *how* to give one when he needs to. Skill in making and using definitions is the strongest protection we have against nonsense, whether nonsense we read or nonsense we write.

§26. WHAT A DEFINITION DOES

Quite a number of different things have been called "definitions." Even among logicians there is still a good deal of disagreement about what *ought* to be called "definitions." This is not to be wondered at, in view of the incompleteness of our knowledge about "the meaning of meaning." There are many unanswered questions, and until some of them are answered, any brief account of definition, however tentative, is bound to seem somewhat arbitrary from certain points of view. We do not yet know enough to say that a particular approach to the problem of definition is the only legitimate approach.

The account to be given in this chapter squares with that given by some authorities, but differs in many respects from the most conventional view. This is something to keep in mind in reading farther afield on the subject. For our present purposes, it is sufficient to concentrate on those points that are most directly useful for reading and writing.

We shall begin by seeing what definitions are *good for*. Their job is to make communication possible when it would be impossible without them, or to make communication clear when it would be fuzzy without them. Let's say that in writing an essay, or a letter, you find yourself using the terms "identical twins" and "fraternal twins." Is your reader likely to know what you mean? If he has never read anything about genetics, the terms may mean nothing to him. Or, what is worse, he may think he knows what they mean

when he doesn't. Thus the word "fraternal" may mislead him into thinking that fraternal twins must be brothers; and "identical," that identical twins must be twins of the same sex. The easiest way to make sure this confusion doesn't happen is to give definitions.

Thus, generally speaking, there are *two* jobs you need definitions for:

1. A definition is a way of *supplying* the meaning of a term that the reader would otherwise not understand. In this book, for example, the terms "*ad hominem* argument" and "premise" may be new to you, and that is why they have to be defined. When you write about a field in which you have some special knowledge (the stock market, nonobjective painting, mushrooms, bebop, or the principles of color television), you will want to use words that are unfamiliar to most people. In that case, your reader needs the help of definitions.

2. A definition is a way of *restricting* the meaning of a term that has several meanings, to prevent ambiguity or equivocation. In this book, for example, such terms as "fact," "connotation," "argument" (and, indeed, "definition") have other meanings than the ones we have adopted. The definition of "connotation" makes explicit the way we have agreed to use the term, and helps both reader and writer to fix the chosen meaning for the rest of the book. Of course, you can't foresee all the mistakes a careless reader will make, but by defining your main terms, you can ensure that a reasonably good reader will get your point. When in doubt, define!

What is a definition, then? Briefly, it is a statement about the meaning of a term. But this needs qualification. For, in the first place, a definition doesn't tell *all* about the meaning of a term. It doesn't list all the connotations that the term may have in various contexts: it specifies the *designation* of the term, or one of the designations of the term. And, in the second place, it defines the term by offering another term that designates the same characteristics as that term. If you define "identical twins," for example, you will present a second term, "twins that develop from the same egg," that has the same designation as the term "identical twins."

Thus in a definition there are two terms: (1) the **term-to-be-defined** (the meaning of which, in its context, is doubtful), and

(2) the **defining term** (the meaning of which is supposed to be understood). The **definition** is a statement that these two terms have the same designation:

> "Identical twins" has the same designation as "twins that develop from the same egg."
>
> "Fraternal twins" has the same designation as "twins that develop from different eggs."

In ordinary language there are many phrases we use for definitions. Compare these:

(1) "Hairsplitting" *means* making unnecessarily subtle distinctions.

(2) To make unnecessarily subtle distinctions *is called* "hairsplitting."

(3) The word "hairsplitting" *is used to refer to the* act of making unnecessarily subtle distinctions.

(4) The word "hairsplitting" *is often applied to* the act of making unnecessarily subtle distinctions.

(5) *A person who uses the word* "hairsplitting" *is understood to be referring to* the act of making unnecessarily subtle distinctions.

(6) "Hairsplitting" *is a colloquial term for* making unnecessarily subtle distinctions.

To make clear exactly how a definition works, we shall choose a special pattern for all definitions. We shall treat this pattern as the *proper form* of a definition, because it is the form that best brings out the essential ingredients of a definition. Instead of writing any of the statements above, we shall write:

> "Hairsplitting" *has the same designation as* "making unnecessarily subtle distinctions."

Or, to put it more abstractly, we may say that the proper form of a definition is this:

> "X" *has the same designation as* "Y."

There are a few points to note about this proper form. "X" is the term-to-be-defined, and "Y" is the defining term; the former is always at the left, the latter at the right. Now, it would be awkward to write out the whole phrase, "has the same designation as,"

each time we give a definition. Therefore we shall also adopt the following abbreviation:

"X"="Y."

In this formula, the "=" has nothing to do with arithmetic; it is an arbitrary way of signifying that the two terms have the same designation.

Furthermore, it is important to notice that "X" and "Y," or the terms of the definition, are always to be put in *quotation marks.* That is because a definition is a statement about *words,* not a statement about *things.* This distinction is an obvious one, yet it is very often overlooked, and the confusion between words and things is the source of a considerable amount of sloppy thinking and writing. Consider the difference between these two statements:

Love is blind.
"Love" has four letters.

When we say, "Love is blind," we are using the word "love" to refer to *love.* When we say, " 'Love' has four letters," we are not talking about love, but about the *word* "love." Unfortunately, there is no absolute rule in English for marking this important distinction. Many writers put a word in italics when they are speaking about it. But there are various other uses for italics, and here we shall follow the best philosophical practice and use quotation marks instead. Quotation marks have other uses, too, but there is much less likelihood of confusion.

It is one thing, then, to *use* a word, and another thing to *mention* it. Consider carefully the difference between the following two statements:

(1) There are two types of argument: inductive and deductive.
(2) There are two meanings of "argument": (*a*) a discourse that contains reasons; (*b*) a dispute between two people.

In the first statement, the word "argument" is *used,* so it is not in quotation marks. In the second statement, the word "argument" is *mentioned,* so it is in quotation marks.

In a definition, then, the two terms are mentioned, not used, and so they must be put within quotation marks. For a definition of "horse" is a statement about the word "horse," and not a statement

about horses. It is highly confusing to talk about "defining horses"; properly speaking, it is the term for the thing, not the thing itself, that is defined. To give a definition of a term is to make a statement that can be translated into the proper form of a definition as we have given it. Here, then, is the definition of "definition":

> "Definition"="statement that one term has the same designation as another term."

Now we have said what a definition *is*, but we must also make clear what a definition is *not*. For giving a definition is not the only way of clarifying the meaning of a term, and there are other kinds of sentence that are loosely called "definitions." Take the term "philosopher," for example.

(1) To give *examples* is not to define a term. A person who doesn't know what the term "philosopher" means can, of course, find out for himself if he is given enough examples. We might say to him, "Plato, Aristotle, Spinoza, Leibniz, Hume, and Kant were all philosophers"; if he studies their lives and works, to see what they all have in common, he may come up with a fairly satisfactory definition. Giving examples is often a help to communication, but examples, by themselves, do not make a definition.

(2) To give a *description* is not to define a term. By comparing philosophers with scientists or artists, we can convey a rough notion of the way the term "philosopher" is used. We might say, "A philosopher is something between an empirical scientist and a poet," but even if such a description is helpful, it is far from being an exact definition.

(3) To give a *figure of speech* is not to define a term. "A philosopher may be defined as a blind man looking in a dark cellar for a black cat that isn't there." But the statement doesn't really tell us anything about the designation of the term "philosopher." In *The Devil's Dictionary,* by Ambrose Bierce, there are many such "definitions": "Deliberation: the act of examining one's bread to see which side it is buttered on." It is true that figurative language can help us to understand words. But (except in a complicated context like a poem) a metaphor cannot assign meaning exactly, as a definition is required to do. Therefore, we shall not consider figurative sentences as definitions at all, even if they contain

the word "define." Architecture may *not* be *defined* as "frozen music," nor music as "liquid architecture."

A CHECK-UP QUIZ. Which of the following statements could be put into the proper form of a definition? Check them.

1. Extracurricular activities are activities like dramatics, sports, painting, and music. ———
2. Rectangular cases large enough to carry a folded suit are called "suitcases." ———
3. A fallacious argument is an argument used by somebody else to prove a conclusion you don't agree with. ———
4. Sublimation is the distillation of flesh into spirit. ———
5. A howdah is something like a chair, usually with a roof, and often placed on the back of an elephant. ———
6. When brokers speak of a "bullish market," they mean one in which prices are rising or about to rise. ———
7. A cartel is a group of business organizations that have formally agreed to fix prices and output. ———
8. Well, "slithy" means "lithe and slimy." ———
9. Well, "toves" are something like badgers—they're something like lizards—and they're something like corkscrews. . . . . Also they make their nests under sun-dials—also they live on cheese. ———
10. Well, "outgribing" is something between bellowing and whistling, with a kind of sneeze in the middle: However, you'll hear it done, maybe—down in the wood yonder—and, when you've once heard it, you'll be *quite* content. ———

RECOMMENDED FOR FURTHER READING: Hugh R. Walpole, *Semantics.* New York: W. W. Norton, Inc., 1941, ch. 6. L. S. Stebbing, *A Modern Introduction to Logic.* London: Methuen & Co., 1930, ch. 22.

§27. TESTING A DEFINITION

A definition is true (or, as some prefer to say, "correct") if the defining term has the same designation as the term-to-be-defined. But in earlier chapters of this book we have seen that very few pairs

of terms have identical designations in *all* the contexts in which they are used. A term may designate one set of characteristics in certain kinds of discourse (in union contracts, in chess manuals, in the shop talk of actors or acrobats), and a different set of characteristics in other kinds of discourse (in Supreme Court decisions, in the *Publications of the Modern Language Association,* on bubble-gum wrappers). Each kind of discourse is, so to speak, a "dialect" of English, and each dialect has its own usage. Thus, when we want to say exactly what the term "bourgeois" designates, we may have to indicate the *range of contexts* we have in mind: in the files of *Life* Magazine, in conversations at the Union League, in the later works of Marx, in last Sunday's editorial, in last night's news broadcast.

Evidently the proper form of a definition, as we have presented it, is somewhat elliptical. To be exact, when we say that "X" and "Y" have the same designation, we should describe the kind of discourses in which "X" and "Y" occur. Consider this definition:

"Bonnet"="hood."

We certainly don't use these terms interchangeably, and unless we qualify the definition in some way it is incorrect. Yet it is true that what Americans call the "hood" of a car, the British call the "bonnet." And we can make the definition correct by putting in these limitations:

"Bonnet" (in British writings and conversations about cars)= "hood" (in American writings and conversations about cars).

These parenthetical expressions may be said to indicate the "scope" of the definition, or, rather, the scope of each of its terms. Every definition has an implicit scope, though its scope may be very vaguely indicated. Where it is not indicated at all, either directly or in the context, we may assume that it includes all discourses in which the term has been used. If it is necessary to be very precise in defining a given term, we should specify the scope, and then our definitions will look like this:

"Frère" (in French)="brother" (in English).

"Sibling" (in English books on psychology)="brother or sister" (in English).

"Brother" (in English) = "different male child of same parents" (in English).

"Mammal" (in zoology books) = "animal that suckles its young" (in English).

"Argument" (in logic books) = "discourse that contains at least two statements, one of which is presented as a reason for the other" (in English).

But, in this chapter, we shall save space by leaving out the scope of a definition whenever that can safely be done.

The examples given above illustrate a significant distinction. In some definitions the scope of the term-to-be-defined lies inside the scope of the defining term. English books on psychology and zoology are a part of English discourses in general. Thus the scope of "sibling" (or of "mammal") is inside the scope of its defining term. In such cases, the definition is a *rule of substitution.* It says, in effect, "You may substitute the defining term for the term-to-be-defined in any sentence in any book on psychology." The meaning of the book will not be affected if we cross out "sibling" wherever it occurs and write in "brother or sister."

In other definitions, however, the scope of the term-to-be-defined lies partly or wholly outside the scope of the defining term. French discourses are not a part of English discourses; British discourses are not included in American discourses. Thus the scope of "frère" is wholly outside the scope of "brother," and the scope of "bonnet" is partly outside the scope of "hood." In such cases, the definition is a *rule of translation.* It tells how to translate from one language to another, or, within a language, from one dialect to another. But it does not permit substitution: "hood" cannot be substituted for "bonnet" in British books without causing confusion.

In the present chapter we shall be concerned chiefly with the first kind of definition, that is, with rules of substitution.

The notion of scope may be clearer if we consider dictionary definitions for a moment. A dictionary does not have to specify the scope of each of its definitions, because the title-page or preface of the dictionary fixes the scope of all its definitions. Thus, it is an "American dictionary," a "Russian-English dictionary," a "dictionary of slang," or a "business dictionary." Moreover, it is published in a certain year, and it claims to report usage current in that year,

not twenty years before. But some meanings of a particular word are limited to a single region, or a single profession, or a single social group. And a good dictionary indicates the scope of each of these special senses, as "medical," "nautical," "military," "law," "heraldry," "criminology."

The importance of scope is evident when we raise the question whether a definition is true or false. Strictly speaking, we can't test a definition (that is, we can't tell whether "X" and "Y" *do* have the same designation) unless we know which uses of the term to examine. If a definition asserts that "X" and "Y" have the same designation for all English-speaking people, when in fact they have different designations for American and British writers, then the definition is false. But it might become true if its scope were properly limited. Whenever two people disagree about the correct definition of a term, it is possible that they have different scopes in mind. If so, the argument can be settled by making the scopes explicit.

But, now, suppose we are quite clear about the scope of a definition; we may then raise the question of its truth or falsity. We test the definition by seeing whether the two terms of the definition are actually used equivalently. If they have the same designation, then they ought to apply to the same things (that is, they must have the same *denotation*). Thus we can test the definition by finding out whether the class of things marked out by the defining term coincides exactly with the class of things marked out by the term-to-be-defined. This test may be conveniently broken up into two *Rules of Definition.*

(1) *Rule of adequate inclusion.* The defining term must be broad enough to include everything that is denoted by the term-to-be-defined. Consider this example:

> "Sonnet"="verse in iambic pentameter consisting of 14 lines, with the rhyme-scheme *a, b, b, a, a, b, b, a, c, d, e, c, d, e.*"

This definition is too *restrictive,* since the defining term does not cover Shakespearean sonnets. In order to make the definition true, the defining term must be broadened, by leaving out the reference to a specific rhyme scheme.

(2) *Rule of adequate restriction.* The defining term must be

narrow enough to exclude everything that is *not* denoted by the term-to-be-defined. Consider this example:

"Sonnet"="verse in iambic pentameter, consisting of 14 lines."

Of course, we can find poets who have given the name "sonnet" to various kinds of verse, even to verse that is not rhymed. But if we limit the scope of "sonnet" to ordinary usage, it will apply only to verses that fall into one or another of a number of rhyme patterns. Then this definition is too *inclusive*. In order to make the definition true, it is at least necessary to specify in the defining term that the lines must be rhymed.

Now we can give a fairly good *approximate* definition of "sonnet," which will include all sonnets and nothing else:

"Sonnet"="verse in iambic pentameter, consisting of 14 lines, each of which rhymes with at least one other line, and some of which rhyme with nonadjacent lines."

This is at least close to the truth about the way the word "sonnet" is customarily used. Some might consider it more accurate if the defining term included a reference to the division of the sonnet into octave and sestet. This is a question that could be settled by careful investigation, though perhaps it would be necessary to limit the scope of the definition first. Moreover the defining term is rather vague, since it doesn't list all the possible rhyme schemes that can be used in a sonnet, and perhaps we could think of some rhyme schemes that we should want to exclude.

Note that a definition can violate *both* rules at the same time. The definition,

"Sonnet"="verse consisting of 14 lines, and dealing with love or death,"

is both too restrictive (it leaves out Wordsworth's two sonnets on "The Sonnet," which are not about love or death), and too inclusive (it includes Browning's "Misconceptions," which is in dactylic meter, but consists of two seven-line stanzas).

The two rules we have stated are the basic tests of a definition. We can apply them to definitions that we run across in our reading, and we can apply them to our own definitions when we need to give them. The surest way to keep from violating the rules is to

have a good method of framing definitions. The following method is simple, and it is in general use. Though it will not guarantee a good definition, it will help us to avoid some of the worst mistakes.

Suppose we want to give a definition of "shoe." We ask ourselves two questions. (1) What *kind* of thing is a shoe; that is, to what general class of things do shoes belong? We might think: Well, shoes are something people wear; they are articles of apparel. There are various classes we might have picked, of course, but it doesn't matter how we start, as long as we pick a large class to which *all* shoes belong. (The class of leather things won't do, because some shoes are wooden.) Suppose we take the class "articles of apparel." Now we are ready for the next question.

(2) How do shoes differ from all other members of the larger class: that is, from all other articles of apparel? We think of other kinds of things that people wear (hats, neckties, socks, raincoats, gloves), and we write down a list of the characteristics that shoes have but some of these other things don't. We might think: Well, shoes are worn on the feet (that eliminates hats and neckties); but so are socks. But socks are made of cloth, and they are lighter than shoes. What about slippers? They are more flexible than shoes, and less durable, too.

At this point, we may discover that the term we are trying to define has a certain amount of vagueness. Anyone can tell a shoe from a starched collar, but perhaps there are no general rules in English usage for distinguishing the softest and lightest shoes from the stiffest and heaviest slippers. If that is the case, we make our definition as sharp as we can, and leave it at that.

> "Shoe"="article of apparel, worn on the foot, with fairly heavy soles and fairly stiff sides."

By further thinking we may be able to improve upon this definition. To do that, we should use the same method, only more thoroughly and carefully.

> A CHECK-UP QUIZ. The following definitions are much too restrictive. In each case, cross out the characteristics that don't belong in the defining term. (The characteristics are numbered for convenience in distinguishing them.)
>
> 1. "Watch"="(1) small case, (2) made of metal, (3) with a

dial (4) numbered at equal distances from 1 to 12 and (5) with at least two rotating hands, (6) moved by a wound-up spring; and (7) capable of being carried by a person, (8) on his wrist or in a pocket; and (9) designed to tell time."

2. "Newspaper"="(1) printed pages (2) appearing at regular intervals, (3) either daily or weekly, (4) under the same name, and (5) containing statements about recent events (6) that are of general importance, also (7) advertisements and (8) expressions of opinion (9) on matters of the day."
3. "Chain store"="(1) retail store (2) selling groceries, (3) belonging to a group of stores (4) all of which have the same name and are owned (5) wholly or (6) in part by a central company, and selling (7) only, or (8) chiefly, or (9) in part, (10) the same goods."
4. "University"="(1) chartered (2) body (3) of men (4) residing in a certain place, (5) prepared to offer instruction in various subjects, and (6) legally empowered to grant degrees, including (7) the A. B. degree, and (8) graduate degrees—that is, (9) the Master of Arts degree and (10) the degree of Doctor of Philosophy.
5. "Novel"="(1) a long (2) prose work (3) printed in a separate volume (4) consisting of at least 30,000 words, (5) telling a connected story, in which (6) there is one main character, called the 'hero,' (7) who appears throughout, and (8) containing some minor characters (9) whose relations to the main character produce the conflict (10) which is resolved in the dénouement."

RECOMMENDED FOR FURTHER READING: Morris Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method.* New York: Harcourt, Brace, and Co., 1934, ch. 12, sec. 2. Alburey Castell, *A College Logic.* New York: The Macmillan Co., 1935, Topic 3.

§28. IMPROMPTU DEFINITIONS

There is a kind of unwritten contract between reader and writer, according to which a writer, in choosing his terms, engages himself to stick as closely as possible to common usage. This arrangement is evidently practical and convenient. But there are two circumstances in which we are quite justified in departing from common

usage. Sometimes there is not available a short phrase that exactly designates just that set of characteristics we want to talk about. Sometimes such a phrase is available, but it has acquired so many connotations with strong emotive force that it isn't safe to use in certain contexts.

In these circumstances, there are two things we can do. (1) We can select an English word and *extend* its meaning in a new way: that is, give it a meaning that it has never had before. It may have a connotation that makes the extension possible, and our problem is then to use that connotation to make the shift, and *fix* it as the new designation. In this book, for example, the terms "suggestion," and "slanting" are assigned special designations for the present context. (2) We can coin a new term and introduce it to the reader through a definition. The term may be based upon etymological roots, like "phonograph" and "electron." Or it may be a new combination of familiar words, like "closed simile" and "syllogism-chain" in this book.

When we do either of these things—give an old term a new meaning, or make up a new term—we are no longer claiming to report common usage. We are saying, in effect, "Never mind how other people use these words; this is the way *I* propose to use them." Our definition has the effect of proposing a new usage. If other writers follow our lead, it may become a common usage; if not, it will be limited to the discourse in which we introduce it. Thus our definition, though highly useful, has a certain amount of arbitrariness about it.

A definition of this sort we shall call an **"impromptu definition."** It differs from other definitions in an important respect: its term-to-be-defined has an especially narrow *scope*. The scope is not "in English" or "in logic books," but "in *this* book," "in *this* essay," or, to put it generally, "in the *present* discourse." Let's say that you are writing an essay on some contemporary novelists who are preoccupied with crime, war, and poverty. And let's say you want to distinguish between novels that merely picture these conditions and novels that implicitly urge the reader to do something about them by political activity. Now, if you are going to refer to this distinction several times, it will be convenient to have a term to mark the distinction. So you might invent a new term: "program

novel." To explain this term, you give an impromptu definition, which, in its proper form, will look like this:

> "Program novel" (in the present essay)="novel that describes bad social conditions and urges political measures to remedy them" (in English).

It would be handy if everything worth talking about could be designated by words in general use. But every special study, like logic, and every special art or craft, like oil painting or plumbing, has its own vocabulary, which is constantly being enlarged. The logician and the plumber can't do their work without making a number of distinctions that aren't needed for other purposes. They mark these distinctions by special terms, which are the *technical terms* of their fields. Thus we get such technical terms as "Œdipus complex" (in psychiatry), "bend sinister" (in heraldry), "entropy" (in thermodynamics), and "floor joists" (in carpentry). When you use an impromptu definition, you are doing, in a more casual way, the same sort of thing: you are proposing a technical term for the subject you are discussing.

The value of technical terms is that they combine *brevity* with *precision.* For ordinary purposes, the term "walking" (though it is only vaguely distinguished from "running") is perfectly adequate. For the Walkers' Club of America, which sponsors walking races that have to be carefully guided by rules, "walking" has been given a much more exact meaning.

> "Walking"="moving along on foot in such a way that (1) the knee of the forward leg is locked when that leg touches the ground, and (2) the forward heel is placed on the ground before the rear toe leaves the ground."

The Walkers' Club *could* use the defining term instead of the term "walking"; but if they had to put in all those words, to be precise, whenever they mentioned walking, it would take a great deal of space and time. That's why the term "walking" is a convenient *abbreviation* for the long defining term.

A writer is free to define his terms in any sense he likes, provided he can make that sense clear to his reader. But he must stick to his own rules after he has proposed them. The peculiar feature of impromptu definitions is that they are not subject to

testing in quite the way other definitions are. A writer on education may say he is going to use the term "reading readiness" for "the state of having sufficient physical, emotional, and intellectual maturity to learn to read without harmful effects." If this is an impromptu definition, we don't ask whether the writer's usage conforms to other people's usage. Admittedly it doesn't; but the definition may work well enough in a particular discourse if it is used consistently.

An impromptu definition is a kind of promise, and the writer is at fault if he doesn't keep his promises. He may start out by using the term "reading readiness" as he says he will and then, wittingly or unwittingly, allow its meaning to change in the course of his argument. Or he may shift back and forth between different meanings of the term. A writer is free to depart from conventional usage, provided his own usage is consistent and clear. But if he insists on defining his terms in an arbitrary way, he must play fair with his reader. There are two very common *fouls* that happen, by design or accident, with impromptu definitions. They are closely related and may be added to your growing list of fallacies.

1. Question-begging definitions are a subtle form of equivocation. Notice what is happening in the following dispute:

> A: "The intelligent students are the best leaders."
>
> B: "But look at the Alpha Alpha Alpha Honor Society; all those students have grades over 88, and only one out of fifty is a leader among the undergraduates."
>
> A: "Oh, you can't count *them*—they're just *grinds*. They get high grades, but they're not really intelligent, in my all-round sense of the word."

A starts out by using "intelligent" in what is presumably one of its normal senses: that is, as many people would use it. But B gives a reason against A's statement. Then A, instead of admitting that he is wrong, shifts to a new impromptu definition of "intelligent." This narrows the meaning of the term ("in my all-round sense of the word") so that B's objection no longer applies. In short, A is quibbling between a *usual* and a *special* (or what is sometimes called a "Pickwickian") sense of "intelligent." He does not prove that students who are intelligent (in the usual sense) are leaders.

He only "proves" that students who are intelligent in *his* vague sense are leaders.

And, in fact, if A is asked to explain what he means by "all-round," he will probably have to admit that "being an all-round person" means "being a leader" (among other things). Thus A begs the question at issue, or takes for granted what he is supposed to be proving, by *defining* "intelligent" so that it is *true by definition* that intelligent students are leaders. But one can "prove" anything that way. The point is that when we arbitrarily define "bicycle" as a "six-wheeled vehicle," it doesn't follow that bicycles *in the usual sense* have six wheels.

2. Persuasive definitions are a subtle form of slanting. Notice what is happening in the following dispute:

> A: "Social security is one of the great achievements of our government."
>
> B: "No, no! Social security is a great mistake. It is nothing but a racket."
>
> A: "A racket? How is that?"
>
> B: "Well, the essential thing about a racket is that it obtains money from the many for the few."
>
> A: "But that's not the way most people use the word 'racket.' Usually—"
>
> B: "Never mind; it's the way *I* propose to use the word, and I suppose I'm free to use the word in this way, if I like. I say that the social security system takes money from large numbers of people, and thereby keeps a few bureaucrats in their jobs. According to *my* definition, that's a racket."

Persuasive definitions are not usually quite so obvious as this, but the principle is always the same. B claims the freedom to give an impromptu definition of "racket." But, though he gives the term a *new* designation, he is clearly relying on the *old* connotation to arouse and re-direct A's feelings. It's true that *in his special sense* social security is now a racket, but B is not using the term merely for convenience—he is using a term with marked emotive force, in order to make us feel just as strongly against social security as we do against gangsters who prey upon flower shops with a fake "protection agency."

The fallacy of persuasive definition, then, consists in assigning a

new designation to a term but preserving the old connotation and the old emotive force. This is often done with certain words: by people who want to use "religion" in a "broad" sense to cover their own pallid, or even immoral, beliefs and practices; by people who want to use "democracy" in a conveniently "strict" sense to confine its laudatory value to their own social caste or income group. When we find someone doing this, we must simply refuse to accept a redefinition of an emotionally charged word, unless the context neutralizes it. We can point out that the question of the value of social security is *not* settled by calling it a bad name.

There is one other reply to this gambit. A persuasive definition cuts both ways. Sometimes we can dissuade our opponent from using his persuasive definition by showing him that, if he insists upon using it, he is going to have to apply the same bad name to a number of things he approves of, or the same good name to a number of things he detests. Thus A, in the dialogue above, might say:

> A: "Let me get this straight. You are defining 'racket' in such a way that any organization which takes money from many people and spends that money partly to pay the salaries of a few people is a racket?"
>
> B: "That's right! And I say—"
>
> A: "Then the Red Cross is a racket, according to your definition; and so are all the departments of the Federal or State or Municipal Governments, including the fire department, the Farm Bureau, etc. And so is the Chamber of Commerce. In fact, I'd like you to name a useful organization which is *not* a 'racket' in *your* sense."

A CHECK-UP QUIZ. To commit the fallacy of persuasive definition, an argument must satisfy all three of these conditions: (1) it must contain a definition giving a new or unusual meaning to a term; (2) the term must have some emotive force (positive or negative); (3) the context must reinforce the connotations of the term in such a way that the old emotive force is preserved despite the change in the designation of the term.

With these points in mind, check the passages below that commit this fallacy.

1. If a fellow rides over Niagara Falls in a barrel, I don't call

that *courageous*—I call it plain *foolhardy.* According to my way of speaking, it's not courage to face danger unless you have a good reason for doing so—that is, something beyond just getting famous.

2. That fellow is a *rabble-rouser,* I tell you. He whips up the crowds until they practically chant back at him; he promises them everything under the sun, from free diapers for the babies to a fifty-dollar coffin, but he tells them *they* aren't going to have to pay for it. He never tells them anything unpleasant, and he never gives them any good reasons to show how he is going to carry out his promises: he just croons at them to trust in him. I don't care what *you* call it; I call it *rabble-rousing.*
3. According to the definition in the dictionary, maybe, *censorship* of the movies would consist in prohibiting people from showing the movies, after they have been made. But it seems to us important to apply the term to anything which achieves the same effect: so when we speak of "censorship," we include those stupid and disgusting cases where somebody forces the producer to alter a movie *while* it is being made, by threatening to boycott it, or get it prohibited, *after* it is made.
4. What's in the history-books, anyhow? Nothing but a very one-sided and half-baked story of what happened long ago, by someone who wasn't there. How can the historian help being biased? I say history is nothing but *propaganda* that helps to keep people thinking how nice they are, because they had such brave and gallant ancestors, and how sweet the government is, because the past government was so good. Oh, I don't say it's all written *consciously* to fool us—I don't even say it's all *false:* but, one way or another, it helps to make people patriotic, and anything that does that, I think we should call "propaganda."
5. In this book, we shall confine the term "city" to places with a population of 50,000 or more; and all other populated places will be referred to as "towns." This may easily seem arbitrary, but if the reader will allow us this freedom, he will find it convenient. We do not intend to suggest that there is any difference in importance; it is merely that our statistical discoveries indicate that this is a useful point at which to make a distinction.

RECOMMENDED FOR FURTHER READING: James MacKaye, *The Logic of Language.* Hanover, N. H.: Dartmouth College Publications, 1939. Charles L. Stevenson, *Ethics and Language.* New Haven: Yale University Press, 1944, chs. 6, 9, 11, 13.

§29. DEFINING IN A CIRCLE

Any discourse that is fairly long, complicated, and informative will turn around certain *key terms.* These terms will be used often, because they embody the most important ideas of that discourse. Some of the terms are defined by means of other terms, and perhaps those other terms are themselves defined by means of further terms —but ultimately, if we follow the definitions back, we arrive at certain key terms that are *not* defined in that discourse.

Consider, for example, the key terms in this book. Starting, say, with the term "fallacy," we can trace its meaning back through a series of definitions. We find that, in defining "fallacy," the term "argument" is used. In defining "argument," the term "discourse" is used; in defining "discourse," the term "word" is used; but "word" is not defined in this book. It is assumed that you know, with enough accuracy for our purposes, what a word is. When we study the relations among the key terms in this book, then, we find that a number of them (such as "word," "sentence," "meaning," "true," "thing," "characteristic") are not explicitly defined. Such terms are called the **"undefined terms"** (or "primitive terms") of a given discourse. And all the key terms that are defined by means of them, or by means of other terms defined by means of them, are called the **"defined terms"** of the discourse (for example, "designation," "definition," "syllogism"). The most important defined terms in this book are put in boldface type when they are first introduced.

It is apparent that any discourse has to have some undefined terms; a writer assumes that his readers already know how to use certain words. But it doesn't follow that the terms are necessarily *indefinable.* People sometimes excuse themselves for talking nonsense by saying that their terms are "indefinable," because their real thoughts are "ineffable," and can only be grasped "sympathetically" or "intuitively." It would be going too far afield here to

do more than raise an eyebrow at such a way of speaking. But a few distinctions may be helpful.

There are two sorts of terms that, in the strict sense, can't be defined. But their meaning can still be made reasonably clear. First, there are the terms that denote simple sensory qualities ("cerise," "acrid," "smooth," "soft"); to give the meaning of such terms, we have to point to something. Second, there are the terms that are so very general that no *more* general class can be found to put them in ("thing," "event," "being"). The problem of giving a meaning to such terms is very difficult, but it is a philosophical problem, and we shall not need to investigate it here. Aside from these two kinds, it is safe to say that all terms are, in principle, definable, though in practice it may be very difficult to define them.

When you write an essay, or prepare a speech, you have to make some important decisions about the terms you use. Some of the key terms you will define, some you will leave undefined. Now, in deciding which terms to leave undefined, your problem is to estimate the linguistic equipment of your reader or your audience. All one can say in general is that, considering the circumstances, the undefined terms must not be too *obscure*. But this is a relative matter. If a person unfamiliar with American speech asked you what "black eye" means, you might give its definition accurately by this defining term: "ecchymosis of the flesh below the eye, produced by extravasation of blood beneath the cuticle." If the person has a reading knowledge of English medical books, but not a speaking knowledge of everyday English, this may suit his needs. Otherwise, he will be no better off than he was before, and you will have to go on and give another definition: "ecchymosis"="bluish discoloration." The first definition was a perfectly good one, but it was not useful (under the circumstances) without the second one.

The usefulness of a definition, then, depends on how well the writer estimates the requirements of his audience. Sometimes this is not hard to do. Victoria Lincoln, writing in *The New Yorker,* once poked fun at an early edition of Fanny Farmer's cook book (later editors have corrected it) because it defined "lamb" as "the meat of lambs," but advised making Bunuelos with a "Bunuelos iron"—a term that was defined nowhere in the book. This is an example of uncommon capriciousness. But quite often the selection

of undefined terms is one of the hardest problems of a writer who wishes to be understood.

When we sit down to study a serious discourse (such as a textbook or an essay), we must sometimes pick out, mark, and carefully examine the undefined terms. They contain all the basic ideas, for the defined terms are merely abbreviations for them. If we know what the undefined terms mean, and if the definitions are correct, we can handle the discourse. It is not difficult to discover what the undefined terms are. We do as we did with the term "fallacy" above. If we take out of the definition all the defined terms, and substitute *their* defining terms, we get back in the end to all the undefined terms.

The distinction between defined and undefined terms is most important for discovering whether a given set of definitions is **circular** or not. Circularity arises in this way: A definition is supposed to inform us about the designation of a term, assuming that we do not know the term at all, or do not know it in this sense. But if the term is used to define *itself* (if it appears in its own defining term), then we are no farther along. The supposed definition is only a pretense at a definition.

> "Liberty"=="the right to do anything that does not interfere with the liberty of others."

It is obvious that if we don't know what "liberty" means, this definition will not tell us. It assumes that we know it already. But, remember, a definition is not strictly circular unless the *whole* of the term-to-be-defined appears in the defining term.

> "Freedom of speech"=="freedom to speak, write, or publish any discourse that is neither (*a*) libelous, (*b*) treasonable, nor (*c*) obscene."

It is quite conceivable that a person may know, in general, what "freedom" means without knowing what the term "freedom of speech" means; and though this definition is far from precise, it is *not* circular.

With a *set of definitions* the danger of circularity is much greater. A set is circular if there is a term in it that is used to define itself. But of course this may be done in a roundabout way. The larger the set, the larger the circle, but that doesn't make it easier to see. Consider this set of definitions:

Def. 1: "Government"="group of people having political authority."

Def. 2: "Political authority"="the acknowledged right to make laws and punish violations of them."

Def. 3: "Law"="regulation issued in the name of a government."

These definitions might be questioned, but that is not the point here. The set is circular because the term "government" is used to define "law," "law" is used to define "political authority," and "political authority" is used to define "government." Thus "government" is really used to define itself.

Whether a set is circular can always be discovered by a series of substitutions. It doesn't matter which term we start with; let's take "law" for example. Its defining term is "regulation issued in the name of a *government,*" and in this term we may substitute for the word "government" *its* defining term. Then we substitute for "political authority" *its* defining term. The final result is as follows:

"Law"="regulation issued in the name of a [group of people having [the acknowledged right to make *laws* and punish violations of them]]."

By making these substitutions according to Definitions 1 and 2, we have transformed Definition 3 into a circular definition, thereby proving that the set is circular.

This set can easily be fixed without any serious change. "Regulation" is an undefined term anyway, and it can be substituted for "law" in Definition 2. Then the set would not be circular. But in other cases the circularity reveals a deep confusion that needs careful thinking through. For example, here are two sentences from different chapters of a book on aesthetics:

> The safest way to define "aesthetic experience" is this: it is the experience produced by the contemplation of a work of art. . . . . By the phrase "work of art" I wish to be understood as meaning any object (including a sound) that is capable of causing an aesthetic experience.

The circularity is obvious when the sentences are set side by side. Nor is it superficial. To escape it, the writer would have to define

one of his two terms without using the other, and this might require a good deal of reflection.

Whenever we have to give several definitions in a row, the safest way to avoid circularity—to make sure that we really *are* defining our terms—is to arrange the definitions in a logical order. Roughly speaking, definitions are in logical order if the later definitions build upon the earlier ones. More precisely, every defined term should be defined *before* it is used to define other terms. In this book, for example, the term "statement" is used to define several key terms, such as "argument," "definition," "inconsistency," "generalization." Thus "statement" had to be defined before these other terms could be defined; indeed, "statement" had to be defined in the very first section of the book.

Few *single* definitions are strictly circular. However, there are three sorts of definition that are likely to be parts of circular *sets* of definitions. We should watch out for them, and be careful in using them, or we may think we have explained our meaning when we have merely gone around in circles. First, there are definitions by means of *one-word synonyms*.

"Liberty"="freedom."

This definition is not very helpful. But it may do, unless "freedom" later is defined by means of "liberty." A person who says, "Fat"="adipose" will find it hard to define "adipose" without using the word "fat." Second, there are definitions in *negative* terms.

"Liberty"="state of not being in slavery."

This definition may do, unless "slavery" is later defined as "absence of liberty." Similarly with the definition "False"="not true." Third, there are definitions in *correlative* terms.

"Husband"="man with a wife."

This definition may do, unless "wife" is later defined as "woman with a husband." The definition can go either way, but not *both* ways in the same discourse. "Mountain" can be defined in terms of "valley," or "valley" in terms of "mountain," but in a given discourse one of them must be defined independently of the other, or else left undefined.

A CHECK-UP QUIZ. Consider the following set of terms:

Father	Sibling	Husband	Son
Mother	Cousin	Wife	Daughter
Parent	Aunt	Spouse	Grandparent
Sister	Uncle	Child	Maternal Grandfather
Brother	Niece	Nephew	Paternal Grandfather

Pick out the smallest set of these terms that will enable you to define all the rest. Could you get along with even fewer undefined terms if you used "male" and "female" as undefined terms?

RECOMMENDED FOR FURTHER READING: Max Black, *Critical Thinking*. New York: Prentice-Hall, Inc., 1946, ch. 11.

§30. INFORMAL DEFINITIONS

When a definition is given in proper form, it is said to be a "*formal definition.*" Defining a term formally is the best way to make clear and explicit exactly what the term designates. That is why it is valuable to know how to give a formal definition, even if you use it only for clarifying your own thinking. It is the best protection against ambiguity. Thus, before you set out to develop an argument, you may save yourself a good deal of confusion if you think out your key terms carefully. First, decide which of them you can safely leave undefined. Second, write out for your own guidance a formal definition of those terms that you can define by means of the undefined terms.

If you are sure that you and your reader are both clear about what you mean, you may not have to give a definition at all when you start to write. The terms may be understandable in their context. Even if you *do* have to give a definition to guide your reader, you will hardly ever give a formal definition. Ordinarily you will state your definition in an *informal* manner, as the definitions in this book (except those used as illustrations) are stated. You won't write:

"Mugwump" *has the same designation as* "political independent,"

but you might write:

A political independent is sometimes called a "mugwump."

Once you have written down a formal definition for your own guidance, it is easy to set it forth informally without confusing your reader or yourself. But when you give definitions, either in speaking or writing, there are three important things to keep in mind.

First, when you give a definition you should make it plain that you *are* giving a definition; that you are talking about the word, not about the thing. When you write, "A mystery is something that has not yet been explained," it may not be clear that you are offering a definition, unless the context is right. For example:

> Many people use the word "mystery" loosely. They seem to think that everything that they do not immediately understand is completely inexplicable. So they say, "There are many mysteries that science will never understand." But there is a strict sense of the word. A mystery is something that has not *yet* been explained.

The context is essential here, for the last sentence by itself is ambiguous. It could be a statement about *mysteries,* or it could be a statement about the word "mystery." If you want to leave no doubt that your definition *is* a definition, you must use quotation marks to show that your statement is about the word. You can write:

> Many people use the word "mystery" loosely . . . . But, the word "mystery" means "something that has not *yet* been explained."

Much of the confusion between definitions and other kinds of statements comes from mixing them together in the same sentence. If you look a word up in a dictionary, you find that the dictionary often gives you, not only a definition of the word, but further information about the *thing.* You often find something like this:

> RACCOON. A nocturnal, plantigrade carnivore of North America, usually gray, with a bushy, ringed tail; thought to be the most intelligent wild animal in North America.

This is useful of course, but, logically speaking, it is a jumble. For it throws together a number of characteristics of raccoons; some of these characteristics belong in the definition of "raccoon," and some of them do not. For example, raccoons are, in fact, intelligent, but unintelligent raccoons are still raccoons, so "intelligent" doesn't belong in the defining term. The definition should give only

those characteristics (such as being plantigrade) that an animal must have in order to be correctly called a "raccoon."

Compare, for example, a definition that the judge in a celebrated recent trial recommended to the jury in his final charge. "Perjury," he said, "is the *willful* giving of *false* testimony as to a *material* matter before a *competent* tribunal *while under oath.*" Every one of the italicized points is necessary to make the definition complete, and nothing is left out. To avoid confusion, you should always separate your definitions from other kinds of statement, even though the other statements may help to clarify your meaning.

Second, when you give a definition, you should make it clear whether you are giving an impromptu definition or not. It is seldom necessary to indicate the exact scope of a definition: only an expert linguist knows how far his use of a term corresponds with other people's. But it is always necessary to know when you are giving a *new* and arbitrary meaning to a term, and to let your reader know this. If you don't, you are inviting trouble, for your reader may complain that you are "misusing words" or "torturing the English language," because he thinks your *legitimate* impromptu definition is a *false* statement about the way other people use the term. He may think you don't know the normal meaning of the term.

But there will be no confusion if your informal definition (in its context) gives some hint about the scope, and at least indicates whether the scope is limited to the present discourse or not. Thus, to show that your definition has a scope *beyond* the present context, you might say:

"Protective tariff" usually means . . . .
. . . . are called "protective tariffs."
. . . . generally refers to . . . .
Economists apply the term . . . .

And, to show that your definition is an impromptu one, you might say:

I call . . . .
. . . . is here called . . . .
. . . . in this essay, the term means . . . .
. . . . we shall find it convenient to use the word . . . .

Third, when you give a definition, you should take care to make clear exactly what the defining term is. The definitions you give to clarify your meaning will usually be rules of substitution: that is, they should allow your reader to substitute one term for the other in contexts within the scope of the definition. Consider the definition:

> "Widow"="woman who has married, and whose husband has died."

Now, if this definition is a good one, the defining term and the term-to-be-defined ought to work in the same way. If we take a sensible statement that contains the word "widow," say,

(1) Mrs. Jones is a *widow,* or

(2) Most *widows* are elderly,

we ought to be able to substitute the term "woman who has married, and whose husband has died," without making nonsense:

(1) Mrs. Jones is a *woman who has married, and whose husband has died.*

(2) Most *women who have married, and whose husbands have died,* are elderly.

In statement 2 we had to change the defining term to the plural, because the term "widows" was plural. Of course, when we make such a substitution, we may lose some of the *connotations* of the terms, but the designations will be the same.

The important thing here is to make the two terms of the definition as nearly substitutable as you can.

> An "accident" is when something happens that nobody intended.

In this "definition" the two terms are not even the same part of speech. And we have not only bad grammar, but bad thinking. A person who gives this sort of definition cannot really be clear in his mind what he means by the term "accident." When we try to carry out the substitution, we get nonsense:

> The police decided that his death was an *accident.*
>
> The police decided that his death was *when something happens that nobody intended.*

The good definer goes at the job in no such hit-or-miss fashion.

He asks himself, What kind of thing is an accident? It is an *event,* How does it differ from other events? It is a human act, and it is unintentional. In this way, he works out his defining term so that, at least in a large number of contexts, it is easily substituted for the term-to-be-defined:

> The police decided that his death was an *unintentional act.*

or,

> The police decided that his death was an *event that no one deliberately caused.*

Taking pains with the grammar of a definition pays off in better sense. A definition is a powerful tool for clearing up confusion, but in the wrong hands it can generate more confusion than it cures.

There is one further point to note here. Often, the term-to-be-defined cannot be defined in such a way that it can be replaced directly by another term. For example, the term "brother" designates a relationship that A has to B when A is male and has the same parents as B. It is difficult to work out a satisfactory substitute for the term "brother." In such a case, we have to define "brother," not by itself, but as part of a larger context. That is, we don't try to define "brother," but we define a whole sentence-form containing the word "brother." Then our definition looks like this:

> "A is the brother of B"=="A is male, and A has the same parents as B."

Anyone who knows this definition can interpret similar statements containing the word "brother": he knows what the word "brother" means. So this is a perfectly good definition. It is just a little more complicated than some other definitions.

Whenever you can find an equivalent and substitutable term, it is best to give it. But when you can't, you have to give a definition of the term in a context, using letters like "A" and "B" or "X" and "Y." We all know what the word "unique" means, for example, and yet we are baffled when we try to find another adjective-phrase to substitute for it. But it is easy to define the term as part of a context:

"X is unique"="X is the only one of its kind."

If we were considering the problem of definition on a more technical level, we should have to consider various difficulties that arise in using such definitions. But the main point here is that you should use them only when you need to, and that you should make sure, in these as in all other definitions, that the term-to-be-defined and the defining term have the same grammatical function.

Outline-Summary of Chapter 6

A definition tells the designation (or one of the designations) of a term, by presenting another term that has the same designation: for example,

> "Injunction" has the same designation as "writ of a court in equity, commanding or forbidding an act."

In a definition, the scope of the term-to-be-defined and of the defining term may be specified in parentheses:

> "Rod" (in underworld slang)="pistol" (in English).

The correctness of a definition is tested by discovering

1. Whether the defining term is too narrow in its denotation: "revolver" is too narrow as a defining term for "rod" (in underworld slang); and
2. Whether the defining term is too broad in its denotation: "gun" is too broad as a defining term for "rod" (in underworld slang).

An impromptu definition has the form:

> "Unlimited generalization" (in the present context)="universal statement that is the conclusion of an inductive argument."

An impromptu definition is in effect a proposal to use a term in a novel sense, and it is legitimate so long as it is used in such a way as to avoid:

a. "Proving" a conclusion by defining a term so that the conclusion is true by definition (*question-begging definitions*); and

b. Arousing an attitude for (or against) an object by applying to it a flattering (or derogatory) term (*persuasive definitions.*)

A definition fails to do its job if it is circular, in that the term-to-

be-defined appears in the defining term, or if it belongs to a circular set of definitions.

Exercise 27

Assume that, in their contexts, the following sentences are all definitions. Put them into proper form.

1. A female fox is called a "vixen."
2. To sterilize is to kill bacteria by exposing them to a high temperature.
3. In what is called a "forward pass," the player on the offensive team tries to throw the football to a team-mate who is beyond the line of scrimmage.
4. "Basting" means moistening meat while it is cooking.
5. A husband and wife are said to be "divorced" when their marriage has been legally terminated.
6. People who are paid to influence the votes of Congressmen are usually called "lobbyists."
7. A "strike" is a situation in which employees refuse to work, but do not cease being employees.
8. A "lock-out" is a situation in which an employer refuses to allow his employees to work, but does not fire them.
9. When two people with conflicting desires reconcile their conflict by making mutual concessions, this is said to be a "compromise."
10. A strongly held belief, shared by a number of people, is called a "superstition" if it is wholly irrational.

Exercise 28

Indicate the faults in the following definitions by putting a circle around the right numbers. This is the key:

(1) The defining term is too restrictive.
(2) The defining term is too inclusive.
(3) The defining term is too vague.
(4) The defining term is ambiguous.
(5) The definition is circular.

The definition may *lead* to circularity, because it is:

(6) A definition by a one-word synonym;
(7) A definition by a negative term;
(8) A definition by a correlative term.

1. A cigar is a roll of tobacco leaves that can be smoked. 1 2 3 4 5 6 7 8
2. A revolution is a rapid change in political organization. 1 2 3 4 5 6 7 8
3. A slum is a part of a city having high population density and low average income. 1 2 3 4 5 6 7 8
4. Tools for writing with ink, suitable for carrying in a pocket, are called "fountain pens." 1 2 3 4 5 6 7 8
5. An "effect" is something produced by a cause. 1 2 3 4 5 6 7 8
6. "Gymnasiums" are buildings designed for gymnastic exercises. 1 2 3 4 5 6 7 8
7. "Heavyweight champion" means the same as "boxer who has beaten a heavyweight champion in an official match." 1 2 3 4 5 6 7 8
8. Education may be defined simply as a process in which a person learns something. 1 2 3 4 5 6 7 8
9. A "reasonable argument" is an argument that is not fallacious. 1 2 3 4 5 6 7 8
10. "To slander" means to make false and derogatory statements. 1 2 3 4 5 6 7 8
11. "Chance" is what we call something of which we do not know the cause. 1 2 3 4 5 6 7 8
12. "Eloquence" means the capacity to arouse emotions and influence behavior by means of spoken or written discourse. 1 2 3 4 5 6 7 8
13. A trilogy is a set of three independent novels having at least one main character in common. 1 2 3 4 5 6 7 8
14. Economists apply the term "production goods" to material objects used in the manufacture of consumer goods or of other production goods. 1 2 3 4 5 6 7 8
15. "Ratiocination" means the same as "thinking." 1 2 3 4 5 6 7 8

Exercise 29

Examine the following definitions, and note their faults. Rewrite each definition, improving it as much as you can.

1. "Beauty-parlor" is the word for a place of business where women can purchase the skilled labor of experts on the care of hair.
2. A "wastepaper basket" is a basket for waste paper.
3. "Garbage" is what's left over when you stop eating.
4. A "bottle" is a container made of glass, small and breakable, often used for ink.
5. A "sandwich" is two slices of bread with something besides bread in the middle.
6. A "key" is anything that opens a lock.

   (The following definitions are from Dr. Samuel Johnson, *Dictionary of The English Language.*)
7. *Saw* (noun): a dentated instrument, by the attrition of which wood or metal is cut.
8. *Sneeze* (verb): to emit wind audibly by the nose.
9. *Yawn* (noun): oscitation.
10. *Spar* (verb): to fight with prelusive strokes.
11. *Wipe:* to take away by tersion.
12. *Network:* anything reticulated or decussated at equal intervals, with interstices between the intersections.

Exercise 30

Analyze the following passages. Point out any misconceptions of the nature of definition, and give constructive suggestions for criticizing them. Look for question-begging definitions and persuasive definitions.

1. *Instructor:* "In this essay on Ibsen, you say that any play with an unhappy ending is a tragedy."

   Student: "Well, that's right, isn't it?"

   Instructor: "It's not the *usual* way of defining 'tragedy'; according to the usual way of defining it, an unhappy ending is only *part* of what is included in the notion of a tragedy."

   Student: "Oh. Well—I'll just redefine it for my own purposes—just for the present context. Let's not argue about words. The important thing is that Ibsen's *Wild Duck* must be good, because everyone admits that tragedy is a great form of literature."
2. Divorce is nothing but a form of bigamy. Of course, the home-breakers and the home-wreckers won't admit it; *they* say it's not

bigamy so long as you only have one wife at a time. I suppose, in some narrow sense, they are verbally correct, but what a mockery this makes of the Christian spirit! If a man has two wives, even if they come one after the other, *I* call it "bigamy"; that's what it is, essentially.

3. A: "I am against prohibition, as it exists in our state. I think it is an infringement upon personal liberty."

   B: "I don't see that. After all, we must distinguish carefully between 'liberty' and 'license.' "

   A: "Maybe we must. But I say a man should have the *liberty* to choose what he will eat and drink, providing he does not become a public nuisance."

   B: "But don't you see, when you drink, you're only indulging your sensual appetites, of the lowest sort—you're not taking something you need to keep you alive. Now, I don't care what anyone else says, I call it 'license,' not 'liberty,' when it consists in indulging sensual appetite. It follows that what you want is *not* liberty, but license."

4. All this talk about the sinister influence of lobbies is a suppression of free speech, and dangerous. Why, lobbies are the life-blood of democracy! What's a lobbyist? He's a plain, ordinary citizen who goes to Washington, or to his State Capital, to tell the legislators what a large number of their constituents want. He expresses their needs, and represents them, and he is an instrument of public opinion, like a newspaper. After all, *education* is nothing more, by definition, than bringing out into the light that which was hidden—and the lobbyist is an educator in the best and finest sense of the word.

5. A: "I think it was wrong for the University to fire those professors because they were Communists. It's a violation of academic freedom."

   B: "What do you mean by *academic freedom?*"

   A: "I mean the absence of restraints upon the way a professor teaches, placed upon him by the institution that employs him."

   B: "But that's not what 'academic freedom' *really* means. In the pure sense, a professor is not free unless there are no restraints placed upon him by his political and religious beliefs. After all, if he rigidly adheres to a party line, and to dogma, in his political or religious beliefs, he's not *really* free from restraints. Therefore, those party-line professors were really not free so long as they were

Communists; they did not have academic freedom, any more, so how could the University take it away from them?"

6. Justice Robert H. Jackson, in an address to a meeting of the Association of American Law Schools, described the issues that were before the London Conference of June–August, 1945, at which the procedure and legal principles of the Nuremberg trials were framed and agreed upon.

At this Conference, the Russian proposal was to define the term "crime against the peace" this way:

> "Crime against the peace"="aggression against, or domination over, other nations by the European axis."

There was a long argument over this proposed definition. The United States' position was that it was unjust to make aggression a crime *only* if committed by Germany or Italy. Ultimately the Russians yielded to a broader definition.

> "Crime against the peace"="planning, preparation, initiation, or waging of a war of aggression, or conspiracy to accomplish any of these."

But no agreement could be reached on a definition of "war of aggression." The U.S.S.R. refused to define it in the way it had been defined in various "nonaggression pacts" already signed by the U.S.S.R.—they declared that it was outside the competence of the Conference to define "aggression."

7. The text of the proposed "Genocide" convention was presented to the Economic and Social Council of the United Nations, meeting in Geneva, in August 1948. Willard Thorp, Assistant Secretary of State for Economic Affairs, said that, as "genocide" was a new word, designating a new concept, it must be made as simple and understandable as "homicide." He urged confining the term to "barbarous acts of physical destruction against groups of individuals."

The U.S.S.R. had succeeded in writing into the draft agreement a definition that included "cultural genocide," that is, "the destruction of languages, literature, and other cultural activities." The U.S. proposed narrowing the definition, so that the crime of genocide would not be so vague as to be unenforceable. Poland also agreed that destruction of "political minorities" need not be included in the definition, since this was already covered by other documents.

Mr. Thorp said that the U.S. would also like to eliminate (as

unenforceable) clauses making the designation of "genocide" cover incitement in public or private to commit genocide, even where the incitement is unsuccessful.

Exercise 31

Here are two sets of definitions. Study carefully the definitions in each set. First, arrange them in a logical order, so that later definitions build upon earlier ones. Make a list of the most important undefined terms. Check the sets for circularity.

A

From a cook book:

1. *To bake:* to cook by dry indirect heat (usually in an oven).
2. *To boil:* to cook in boiling water.
3. *To braise:* to cook in a covered dish with a small amount of liquid (this is a combination of roasting and stewing).
4. *To broil:* to cook by direct heat from the flame.
5. *To casserole:* to braise in a covered casserole dish, or baking dish.
6. *To coddle:* to simmer gently (applied to eggs).
7. *To cook au gratin:* to scallop.
8. *To french fry:* to fry in deep, hot fat.
9. *To fricassee:* to stew or to braise in stock, gravy, or a sauce.
10. *To fry:* to cook in fat over direct heat.
11. *To grill:* to broil.
12. *To poach:* to coddle without the shell (applied to eggs).
13. *To roast:* to bake in an oven (applied to meat or poultry).
14. *To sauté:* to fry.
15. *To scallop:* to bake in a dish (applied to mixtures of meat, fish, vegetables, fruit, etc., with liquid or sauce, and bread crumbs, or a substitute, on top).
16. *To shir:* to bake in an earthen dish (applied to eggs).
17. *To simmer:* to cook in water that is almost, but not quite, boiling.
18. *To stew:* to simmer in a small amount of water.

B

From a book on economics:

1. *Barter:* an exchange that does not involve money.

2. *Capital:* wealth.
3. *Cost:* those effects of wealth that are not desired.
4. *Exchange:* two reciprocal transfers.
5. *Income:* those effects of wealth that are desired.
6. *Money:* wealth that is widely accepted in exchange for other wealth.
7. *Net income:* the numerical difference between income and cost.
8. *Price:* the amount of money for which a thing is sold.
9. *Property:* the right to income.
10. *Sale:* an exchange that involves money.
11. *Transfer:* a change of ownership of wealth.
12. *Utility:* the capacity of a thing to satisfy desire.
13. *Wealth:* material things that have utility and are the property of a human being.

Exercise 32

Select *one* of the following essay topics. Choose *five* terms that would be key-terms in your essay, and give careful definitions of them. Set the definitions up formally, and make clear whether they are impromptu definitions or not. Make a list of your undefined terms.

1. Essay on the impossibility or possibility, undesirability or desirability, of a world government. You may want to use such terms as "government," "federation," "representation."
2. A critical essay on a literary work you have just been reading. You may want to use terms such as "satire," "wit," "humor," "irony," "sarcasm."
3. Material for a debate on the organization of consumers. You may want to use such terms as "consumer cooperative," "profit," "consumer-owned."
4. A letter to the college newspaper either for or against the proposed adoption, or elimination, of an Honor System in which examinations are taken without proctors present. You may want to use such terms as "academic standards," "personal responsibility," "freedom."
5. An essay either on the value of the mystery story, or on the mystery story as symptomatic of a decline in literary taste. You may want to use such terms as "mystery story," "detective story," "escape literature."

7

DOES IT FOLLOW?

SUPPOSE YOU READ somewhere that Gutenberg was the man who first printed the Bible, and suppose later you discover that the Bible was first printed in the fifteenth century. Assuming that these statements are true, you know right away that Gutenberg must have lived in the fifteenth century. You know this, not because either of the statements you read tells you so directly, but because when you put the two statements together, you see that it *necessarily follows* from them that Gutenberg lived in the fifteenth century.

This is a very simple example of putting two and two together and getting four. It's a kind of reasoning we do all the time, usually without stopping to think about what we are doing. But let's look at it a little more closely.

If every statement were completely self-enclosed and unrelated to every other statement—if everything we know were, so to speak, in a little compartment by itself—we would have to get all our information about the world piecemeal. Fortunately that isn't so. Statements are *connected* with each other in a logical way, so that sometimes when we know that certain statements are true, we know that certain *other* statements must be true. *If* Gutenberg first printed the Bible, and *if* the man who first printed the Bible lived in the fifteenth century, *then* Gutenberg certainly lived in the fifteenth century.

If one statement follows necessarily from a second statement, we may say that the second statement "implies" the first one. And if we see that one statement is implied by a second, we can *deduce* one from the other. Deductive inference, then, consists in seeing that one statement is implied by another, and in believing that the implied statement is true because the statement that implies it is

true. Sometimes it is easy to make a deduction (as in our example), and if it were always easy we shouldn't need to study deductive logic. We could rely on our commonsense insight into implications. But when implications are hard to see, we can't go just by commonsense: we need a *method* for breaking down complicated deductive inferences into simpler steps; we need *rules* for checking them.

Here, for example, is a deductive argument of a sort that is likely to turn up in ordinary discourse:

> Not all of the Council's own budget-paring proposals have been put into effect, though the Council has put into effect every such proposal, provided it was practical. Evidently some of the Council's proposals were not practical.

Does the conclusion follow? Even if you are pretty sure that it does, you may have some misgivings. But if the matter is important, you don't have to leave it at that. You can find out *exactly* whether the argument is good or not. How you do it is the subject of this chapter.

So far, in this book, we have been talking about the difficulties of finding out what an argument *means*. Incidentally we have turned up a number of ways in which an argument can be crooked. Now we are going to turn to the problem of deciding when the conclusion of an argument is *true*, and we shall have to talk about some of the ways in which an argument can go straight. In short, we shall ask: What makes a *good* argument?

To answer this question, we must begin by dividing arguments into two kinds: deductive and inductive. This is not the only way of dividing them, but it is the most fundamental division for the job at hand. In the first place, there are arguments that claim that their conclusions follow necessarily from their reasons: these are *deductive* arguments. And in the second place, there are arguments that make a more modest claim: these are *inductive* arguments. An inductive argument, as we shall see in the following chapter, doesn't present its conclusion as something that *must* follow from its reasons; its conclusion is presented only as something that it would be sensible to believe, in view of the reasons given. Each of the two kinds of argument has its own rules of straight thinking; each kind has its own special fallacies.

First (in this chapter), we consider deduction.

§31. THE IMPORTANCE OF LOGICAL FORM

From a logical point of view, there are two fundamental questions we can ask about any statement (1) We can ask what the statement is *about*. We get the answer to this question by examining the *terms* of the statement: that is, the nouns, adjectives, and all the verbs except the verb "to be." They are the **content** of the statement. (2) We can ask what the statement *says* about its content: that is, what is the relationship between its terms. This relationship is the **form** of the statement. Every statement, whether as simple as baby-talk or as complicated as the longest sentences in Milton's *Areopagitica,* has a logical form. What you can deduce from it (and what you can deduce it from) depends upon its form.

Take, to begin with, the statement "Cats are animals." What is it about? It contains two terms, "cats" and "animals," and so we may say that it is about cats and that it is about animals. To put it more technically, the statement is about the *class* of cats and the *class* of animals. What does the statement say about these two classes? It says that everything belonging to the cat-class also belongs to the animal-class; or, to put it in a less awkward way, that the first class is *included* in the second. This relationship between the two classes, which is indicated by the word "are," is the logical form of the statement.

Once we make the distinction between form and content, we can compare statements with one another in either of these two respects. Consider the statement "Cats are *not* animals." This has the same *content* as the statement "Cats are animals," for it contains exactly the same nouns. But it has a different *form,* for it says that the cat-class is *not* included in, but is excluded from, the animal-class. Now consider the statement "Squabs are pigeons." This statement has a *different* content, for it is about squabs and pigeons, not about cats and animals. But it has the *same* form as "Cats are animals," for it, too, says that one class is included in another class.

Logical form is not the same thing as grammatical form, yet there is a close connection between them. One of the important jobs of syntax—and this is why the ability to handle it is so crucial

for straight thinking—is to show the logical form of a statement. But different grammatical forms can show the same logical form. Compare these two statements:

> Every mail truck is dark green.
> All mail trucks are dark green things.

These two statements are rather different, from a grammatical point of view. But let's apply to them our distinction between content and logical form. We see that, despite their differences, they have the same *content,* for "being dark green" and "being a dark green thing" are synonymous. Thus both statements refer to the same two classes: the class of mail trucks and the class of dark green things. And, on closer inspection, we see that they have the same *logical form,* too, for both statements say that the class of mail trucks is entirely included in the class of dark green things.

In short, from a logical point of view, the two statements are really the *same* statement, in different words. Of course, they do not have exactly the same meaning: for example, they do not suggest the same things, and in some contexts this difference may be extremely important to understand. But when we are interested only in what a statement can do in a deductive argument, we set aside its suggestiveness. And then, when two statements say the same thing *about* the same things, we call them the *same statement:* they are **logically identical.** Naturally, this way of speaking can get us into trouble if we aren't careful to stick to our meaning. When we say that two statements are "logically identical," we do not deny that there is *any* difference between them; we are only deciding that the differences are not pertinent to the way the statements work in a deductive argument.

We shall confine ourselves, for the most part, to four familiar types of statement. These differ in logical form, but they all have two fundamental characteristics in common. Each contains exactly two terms, a **subject-term** and a **predicate-term** referring to two classes of things. Therefore we shall call them **"two-class statements."** And each concerns the relationship of inclusion or exclusion between its two classes.

Suppose we choose two classes, say the class of battleships and

the class of obsolete things. There are four possible assertions we can make about these two classes:

(1) *All battleships are obsolete things.*
(The entire class of battleships is included in the class of obsolete things.)

(2) *Some battleships are obsolete things.*
(Part of the class of battleships is included in the class of obsolete things.)

(3) *No battleships are obsolete things.*
(The entire class of battleships is excluded from the class of obsolete things.)

(4) *Some battleships are not obsolete things.*
(Part of the class of battleships is excluded from the class of obsolete things.)

These are the four types of two-class statement.

Now, we must note a further distinction among the statements in our list. The first two assert that battleships (all or some) *are* obsolete; the last two assert that battleships (all or some) *are not* obsolete. So the first two (and all other statements that assert class-inclusion) are called **"affirmative"** statements; whereas the last two (and all other statements that assert class-exclusion) are called **"negative"** statements. Again, the first and third are about the *whole* class of battleships; the second and fourth are about *part* of the class of battleships. So the first and third (and all other statements that talk about *all* or *none*) are called **"universal"** statements; whereas the second and fourth (and all other statements that talk about *some*) are called **"particular"** statements.

Thus each of the four types of statements has its own name:

(1) *Universal affirmative* (for example, "A ship is obsolete if it's a battleship.")

(2) *Particular affirmative* (for example, "A few battleships are obsolete.")

(3) *Universal negative* (for example, "Not one battleship is obsolete.")

(4) *Particular negative* (for example, "Not all battleships are obsolete.")

The examples in this list, though worded differently from our other examples, are for the most part clear. It is plain that "Not one battleship is obsolete" is logically identical to "No battleships are obsolete." Perhaps it is a little more puzzling to say that "Not all battleships are obsolete" is logically identical to "Some battleships are not obsolete," but if you examine these two statements carefully, you will agree that they both assert that part of the class of battleships is outside the class of obsolete things.

The more familiar we become with logical forms, the surer we are of recognizing them when they turn up in ordinary discourse, and the better we are at making correct deductions. It is not too much to say that logical form is the whole secret of deduction: it is the key to all that follows, and its importance, both in theory and practice, can hardly be overstated. Compare, for example, these two statements:

(1) *All* seniors with an 85 average graduate with honors.
(2) *Only* seniors with an 85 average graduate with honors.

Grammatically, these two sentences are almost the same: there is only one short word in each to mark the difference. It is easy to confuse these statements with each other.

The way to keep clear about them lies in what we have said about logical form: think about them in terms of class relationships. Then you see the difference. For the first statement says that the class of *seniors with an 85 average* is wholly included in the class of *seniors who graduate with honors.* But the second statement says that the class of *seniors who graduate with honors* is wholly included in the class of *seniors with an 85 average.* The second statement is the same as "All seniors who graduate with honors have an 85 average." Is the difference important? Well, suppose you are a senior with an 85 average: if the *first* statement is true, it necessarily follows that you will graduate with honors, but if only the *second* statement is true, that conclusion doesn't necessarily follow at all. That is the important difference. The word "only" is one to keep an eye on.

A CHECK-UP QUIZ. Indicate the *logical form* of the following statements by putting a circle around the correct abbreviation:

(UA) for "universal affirmative"
(PA) for "particular affirmative"
(UN) for "universal negative"
(PN) for "particular negative"

1. Not any members of the President's original cabinet still remain. UA PA UN PN
2. A number of senators who supported the original bill are prepared to vote against the amended version of it. UA PA UN PN
3. Political compromises never satisfy people completely. UA PA UN PN
4. Every recent attempt to reorganize Congress has been defeated. UA PA UN PN
5. Not every member of the committee was in favor of the proposal. UA PA UN PN
6. Only representatives from dairy-producing states have spoken against the bill. UA PA UN PN
7. At least a few of the President's advisers are known to deplore his recent stand. UA PA UN PN
8. Not one charge made by the committee has been substantiated. UA PA UN PN
9. A public official is always regarded as guilty if he is merely accused of something. UA PA UN PN
10. Anyone who expects these bills to be voted on before Congress adjourns is unduly optimistic. UA PA UN PN

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic.* New York: Prentice-Hall, Inc., 1950, ch. 8 and ch. 11, §51.

§32. BASIC LOGICAL CONNECTIONS

Anyone can see that these two statements have nothing to do with each other:

All cakes are sweet.
All acrobats are nimble.

Even if cakes *are* sweet, nothing follows about the nimbleness of acrobats. And it is just as obvious that these two statements *do* have something to do with each other:

All cakes are sweet.
Some cakes are sour.

If you believe that the first one is true, you must admit that the second one is *not* true.

Now, suppose we take any two statements. If the truth or falsity of either of them implies the truth or falsity of the other, the two statements are said to be **"logically connected."** "All cakes are sweet" and "Some cakes are sour" are logically connected, because if one of them is true the other must be false. On the other hand, if the truth or falsity of either of two statements implies nothing whatever about the truth or falsity of the other, the two statements are said to be **"logically independent."** "All cakes are sweet" and "All acrobats are nimble" are logically independent, because if one of them is true, the other can still be either true or false.

Every statement has logical connections with certain other statements. Statements, so to speak, run in families, or clans: If one statement is true, it will always follow that certain other statements must be true, and still other statements must be false.

Clearly this fact has a lot to do with straight thinking. If we want to get at the truth about anything, we must know the way the truth of one statement is connected with the truth or falsity of others. We must know what we are logically committed to when we believe a certain statement; and when we believe one statement, we want to know whether it is logically possible for us to believe certain other statements. It's obvious that a cake can't be both sweet and sour, or that the same day can't be both Tuesday and Wednesday. But the statements we are called upon to make up our minds about in political and social issues are seldom as easy to handle.

Suppose, then, that we want to know the logical relationship between two statements—say, statements made by different columnists in the same issue of a newspaper. That is, we want to know

whether the truth of either of them has anything to do with the truth of the other. To answer a question like this, we must have clearly in mind the two basic logical connections between statements: *equivalence* and *incompatibility.*

Two statements are said to be **"logically equivalent"** if each of them implies the other. If "No children are voters" is true, then "No voters are children" must be true. And vice versa. If we know that no children are permitted to vote, we don't have to go through the list of registered voters to make sure that none of them are children. We can make a deductive inference. Maybe it doesn't look like much of an inference, because it doesn't take us very far. Nevertheless, it is one of the basic kinds of inference that we can make with two-class statements. And, though we usually make such inferences without any particular effort, it will repay us to examine carefully what we are doing. When we say:

No children are voters,
Therefore, No voters are children,

we are following a certain rule. This rule, which is what justifies us in making the inference, we shall call a *"Rule of Conversion."*

The **converse** of a statement is the statement we get by switching its terms around. We start with:

(1) No astrologists are clear thinkers.

The two terms are "astrologists" and "clear thinkers." We reverse the two terms, but keep the form of the statement the same, and get:

(2) No clear thinkers are astrologists.

Statement 2 is then the converse of statement 1; and, of course, statement 1 is also the converse of statement 2.

It is evident that if the first statement is true, then the second statement must be true, and vice versa; in short, they are equivalent to each other. Now, if we take *any* universal negative statement and convert it, the same thing will be true. This gives us our First Rule of Conversion:

A universal negative statement is equivalent to its converse.

"No evidence obtained by wire-tapping is admitted in the Federal Courts" is equivalent to "No evidence admitted in the Federal Courts is obtained by wire-tapping." It doesn't matter what the statement is about; the rule applies to any statement having the universal negative form.

Now we shall consider particular affirmative statements, for example:

(3) Some astrologists are clear thinkers.

When we change the terms around we get:

(4) Some clear thinkers are astrologists.

Again it is evident that statement 3 is equivalent to statement 4. And the same thing holds for every particular affirmative statement. This is our Second Rule of Conversion:

A particular affirmative statement is equivalent to its converse.

"Some evidence secured by the F.B.I. is admitted in the Federal Courts" is equivalent to "Some evidence admitted in the Federal Courts is secured by the F.B.I."

Even though these rules are so simple that one can hardly go wrong in using them, they are helpful to our thinking. For they show us how to clear up a mistake that we *do* make in certain circumstances. Universal negative statements can be converted; but universal *affirmative* statements cannot:

A universal affirmative statement is NOT equivalent to its converse.

Recall our earlier example. What is the connection between

(5) All seniors having an 85 average graduate with honors,

and

(6) All seniors who graduate with honors have an 85 average?

Statements 5 and 6 are converses of each other, like 1 and 2; but 5 and 6 are universal affirmative statements. If 5 is true, 6 may be true or false. If 6 is true, 5 may be true or false. Thus they are logically independent. That is why it is so important not to confuse them.

Two statements are said to be **"logically incompatible"** if one of them implies the falsity of the other. If "No astrologists are clear thinkers" is *true,* then "Some astrologists are clear thinkers" is *false.* If "Some astrologists are clear thinkers" is true, then "No astrologists are clear thinkers" is false. When we have two statements that contain the same terms *in the same order,* we can usually tell, without much trouble, whether or not they are incompatible. *"Some* rats eat cardboard" is clearly incompatible with *"No* rats eat cardboard." But when the terms are switched around or transformed in certain ways, we must make a careful examination to be sure.

Compare, for example,

> It takes brains to be a good burglar,

with

> A person can lack brains and still be a good burglar.

It is best to begin by getting straight about the terms involved, and about the logical form of each statement. The first statement may be rewritten as *"All good burglars have brains."* The second statement may be rewritten as "Some people who lack brains are good burglars." This second statement is a particular affirmative statement, and it is equivalent to its converse: *"Some good burglars lack brains."* Now it is plain that the two statements are logically incompatible.

It is of the greatest importance for a reader or writer to be able to handle the notions of equivalence and incompatibility. For they clarify two common kinds of discourse that a critical reader must be able to recognize and an accurate writer to avoid. There is discourse that is *redundant,* and there is discourse that is *inconsistent.* Both kinds of discourse show sloppy thinking.

A discourse is said to be **"redundant"** when it contains state-

ments that are either logically identical or logically equivalent. Here is an example:

> Following their defeat of the Persians in the Persian War, the Greek city-states, from that point on, were unable, though they tried several times, to work out a successful and lasting federation among themselves. Every attempt at a system of cooperation sooner or later failed. However much they might see the need of such a federation, they couldn't work out one that would hold up. Whatever plans were made would be broken up by various difficulties, and so it turned out to be impossible for them to federate with each other in such a way as to preserve peaceful and friendly relations over a long period of time.

What's the matter with this passage? It contains a number of statements, but the amount of information in it seems disproportionately small. When we examine the statements closely, we see why: they are all either logically identical (because their terms are synonymous, and so they say the same thing in different words) or else logically equivalent.

A redundant passage repeats the same ideas over and over; it doesn't get anywhere. You can picture the writer as a student trying to eke out a 1500-word composition he has been assigned to write. He hasn't very much to say, but he is determined to take as many words as possible to say it. In short, he is *padding*. Perhaps he knows what he is doing. But very often we write redundantly without knowing it: we write strings of identical or equivalent statements because we don't see that they *are* identical or equivalent. And this is one way the principles of logic help us: they show us how to find out what we are actually saying.

A discourse is said to be **"inconsistent"** when it contains incompatible statements. Here is an example:

> Academic freedom is a cornerstone of our system of education—I mean freedom to teach without fear of reprisals for one's policies. No teacher should be prevented from teaching merely because of his political views. But, of course, to preserve our institutions it is not enough to be passive and negative. We must actively root out and suppress all threats to freedom. There are certain political views according to which freedom is wrong; and

> unfortunately some of our teachers themselves hold these views. I do not know—and I do not need to know—whether such teachers actually try to persuade their students of their views. That is not the point. The point is that some of our teachers, in this very state, cannot be allowed to hold their jobs, because of their dangerous political commitments.

This writer doesn't have trouble thinking of things to say: in fact, he says too much. He says, "No teacher should be prevented from teaching merely because of his political views," and later he says, "Some of our teachers . . . cannot be allowed to hold their jobs, because of their dangerous political commitments." If we interpret these words in their usual senses, we get a logical conflict, or contradiction, and the passage is guilty of *inconsistency.*

This doesn't mean, of course, that *both* of the incompatible statements must be false. At least *one* of them must be false, and it is clear that the writer hasn't thought out where he stands. He doesn't see the connections among his beliefs, and so he denies in one breath what he asserts in another. In a longer discourse, in which, say, the incompatible statements appeared in different chapters, it would take a very good reader to spot the inconsistency. But this is a skill that can be learned. Nor is it a relatively minor matter; inconsistency *may* arise from a trivial slip of the pen, or it may be the sign of a fundamental confusion in our thinking. At least, we can be sure of this: a discourse that is inconsistent cannot be true as a *whole,* and we cannot discover which *part* of it (if any) is true until we recognize clearly where the inconsistency lies.

A CHECK-UP QUIZ. Indicate the *logical connections* between the statements in each pair by putting a circle around the correct abbreviation:

(Eq) for "equivalent,"
(Inc) for "incompatible,"
(Ind) for "independent."

1. (a) Any poem that lacks unity is a bad poem.
   (b) Bad poems always lack unity. Eq Inc Ind
2. (a) Every great poem expresses a true philosophy.

(b) Some great poems do not express a true philosophy. Eq Inc Ind

3. (a) Some sentimental poems are effective.
(b) Some effective poems are sentimental. Eq Inc Ind

4. (a) Some poems that are well unified are not short.
(b) No long poems are well unified. Eq Inc Ind

5. (a) No first-rate poems contain mixed metaphors.
(b) Poems that are first-rate are always free from mixed metaphor. Eq Inc Ind

6. (a) Not all poems about trees are bad poems.
(b) Not all bad poems are about trees. Eq Inc Ind

7. (a) If a poem is sincere, it is moving.
(b) If a poem is moving, it is sincere. Eq Inc Ind

8. (a) Good lyric poetry is never ironic.
(b) Poetry that is ironic would not be good lyric poetry. Eq Inc Ind

9. (a) Well-integrated poems are occasionally satirical.
(b) A satirical poem is always badly integrated. Eq Inc Ind

10. (a) A poem must be good if it sends a shiver down your spine.
(b) A poem must be bad if it does not send a shiver down your spine. Eq Inc Ind.

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic*. New York: Prentice-Hall, Inc., 1950, ch. 9 and ch. 11, §52.

§33. STATEMENTS INTO PREMISES

Now suppose we take a number of statements (that is, at least two), and ask what follows from them. If we have reason to believe that they are all true, what conclusion can we draw from them? Of course, there will be certain statements that follow from each of them, taken separately—for example, some of them will imply their converses. But more than that: from two or more statements joined together a conclusion may follow that does not

follow from any of them by itself. That is what happens in a deductive argument.

For example, let's take the statement "No plump people are nimble people," and the statement "All acrobats are nimble people." It doesn't matter at the moment whether you agree with these statements: our question is, what do they imply? And since these statements are short and clear, the answer is not hard to see. If we put them together, we can construct an argument in which the conclusion evidently follows:

No plump people are nimble people. (1)
All acrobats are nimble people. (2)
Therefore: No acrobats are plump people (3)

This is a deductive argument of a very simple kind: it is a **syllogism.**

A syllogism is a deductive argument having a certain type of structure. In the first place, it must contain three (and only three) statements—usually statements of the two-class form. In our example,

Statement 1 is a universal negative statement.
Statement 2 is a universal affirmative statement.
Statement 3 is a universal negative statement.

Statements 1 and 2 are called the **"premises"** of the syllogism; Statement 3 is the *conclusion.*

In the second place, these three statements must contain, among them, three (and only three) terms, each of which turns up twice in the course of the argument.

Term 1: "plump people"
Term 2: "nimble people"
Term 3: "acrobats"

Term 2 appears in both premises, and it's the crucial term, for it ties the premises together so that they can yield the conclusion. Hence term 2 is called the **"middle term."** Terms 1 and 3 appear in the premises and *also* in the conclusion: they may be called the **"end terms"** of the syllogism.

There are many other types of deductive argument besides syllogisms, but we shall consider this type as an example of deductive argument. Though it is simple, the syllogism illustrates all the important features of deduction, and as we study the syllogism we become acquainted with a common form of argument of which we can readily find examples (both good and bad) in most of our reading and writing.

Any deductive argument can be divided into its two parts: its premises and its conclusion. The premises are asserted as the basic reason in the argument. Of course, we may question them, and when we do so, we are, in effect, asking for another argument to support them. But in any *given* deductive argument certain statements are assumed, and the argument makes a claim that its conclusion follows necessarily from its premises. In our example, it is clear that the conclusion *does* follow. If both premises are granted, the conclusion must be granted, too.

A deductive argument, therefore, does two different things at the same time; we must keep these two things distinct. (1) It claims that its premises are *true*. (2) It claims that its conclusion follows from the premises: in other words, it claims to be **valid**. If both of these claims are justified, the argument is *conclusive,* and it is called a "**proof.**" This term has another sense that we shall take note of later, but, when we are talking of deductive arguments, its meaning is quite clear. When we have deduced a statement correctly from true premises, we have *proved* it.

Looking at deduction from the other side, then, we may say that there are two ways a deductive argument can break down. (1) One (or more) of its premises may be *false*. For example:

No monkeys are nimble.
All acrobats are nimble.
Therefore: No acrobats are monkeys.

The first premise here is certainly false. But notice that the conclusion is perfectly true. If some or all of the premises of a deductive argument are false, that doesn't imply that the conclusion is also false.

(2) Even if the premises of a deductive argument are true, the

conclusion may not follow. In that case, the argument is said to be *"invalid."* For example:

No elephants are nimble.
No acrobats are elephants.
Therefore: All acrobats are nimble.

We may agree that all three of these statements are true, but the argument is nevertheless invalid. Even if the premises are true, the conclusion *could* be false: we have other good reasons for believing that acrobats are nimble, but *this* argument doesn't give us a good reason for believing it.

As long as we stick to very simple deductive arguments, like the ones we have cited as examples, we can tell immediately whether they are valid or not. But our examples are artificial just because we should hardly ever write or read such simple ones. To handle more complicated arguments we must first learn how to test them methodically whenever it is important to know whether they are valid or not.

Each kind of deductive argument has its own special rules, which it must obey if it is to be valid. When we systematically examine a syllogism, for example, checking it against the rules of syllogistic inference, we can assure ourselves of its validity or invalidity, no matter how complicated it may be. The more familiar we become with the logical structure of syllogisms, the more the rules become a part of our thinking. In that way we come to make the proper tests automatically: we make a *habit* of straight thinking.

A CHECK-UP QUIZ. Here are five pairs of premises. In each case, if you think a conclusion follows from the premises, write it below; if you think no conclusion follows, leave a blank.

1. Agreements between sovereign states are always unenforceable.
   Agreements that are unenforceable cannot be expected to last.
   Therefore:
2. A planned economy is not a competitive economy.
   A competitive economy is not a stagnant economy.
   Therefore:

3. No one who was present at the rally could fail to know that American statesmen were hissed and booed.
   The witnesses for the defense do not know that American statesmen were hissed and booed.
   Therefore:
4. Everyone who contributed to the defense of the accused man must have been sympathetic to him.
   Some members of our organization did not contribute to his defense.
   Therefore:
5. Some measures that have been taken to preserve national resources have been ineffectual.
   All measures that have been taken to preserve national resources have been insufficiently financed.
   Therefore:

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic.* New York: Prentice-Hall, Inc., 1950, ch. 7, §§31–33.

§34. TESTING A SYLLOGISM

The job of testing a syllogism divides itself into two parts, one of which must be done first, to pave the way for the other.

The *first* part of the job consists in *clearing the ground.* Most of the syllogisms that we run across in the course of our reading are in more or less colloquial form. The exact terms, and the relationships between them, are more or less disguised. Before we can decide whether the syllogism is valid, we must put it into the clearest possible shape. Here, for example, is the syllogism we glanced at earlier in this chapter:

> Not all of the Council's own budget-paring proposals have been put into effect, though the Council has put into effect every such proposal, provided it was practical. Evidently some of the Council's proposals were not practical.

We begin by separating the three statements that make up the argument:

(1) Not all of the Council's own budget-paring proposals have been put into effect.
(2) The Council has put into effect every such proposal, provided it was practical.
(3) Some of the Council's proposals were not practical.

The conclusion is stated in a straightforward enough way, but the sense of the premises could be made clearer. The "Not all . . ." construction, as we have seen, can be put into a more direct form. We rewrite the first premise in the following way:

(1) Some of the Council's budget-paring proposals have *not* been put into effect.

The second premise contains the word "provided," and this is a word we haven't encountered before. How shall we interpret it? We think of other statements that contain this word: for example, suppose someone says, "Anyone can get in *provided* he has a ticket." He is saying that *anyone who has a ticket can get in.* So the second premise of our argument may be rewritten:

(2) All proposals that were practical have been put into effect.

If we were in any doubt about the structure of this argument, we could clarify it further. But the main thing is to get it into shape so we can see that it is a syllogism, and so that its working parts (its statements and terms) are plain. In our example, it is now clear that statement 1 is a particular negative statement, statement 2 is a universal affirmative statement, and statement 3 is a particular negative statement. The middle term is "proposals that have been put into effect"; and the end terms are "the Council's budget-paring proposals" and "proposals that were practical."

The *second* part of the job of testing a syllogism consists in *applying the rules.* To simplify our discussion here, we shall not attempt to provide a complete set of rules for distinguishing valid from invalid syllogisms. Some of the rules are fairly obvious, and when a syllogism violates one of these rules it is usually pretty silly and easy to see through. But two of the rules of the syllogism are worth very careful attention, for they are a little complicated, and they are the two most often violated.

To explain these two rules we must first introduce one more distinction that has to do with the terms of a syllogism. Every term, each time it appears, is either distributed or undistributed. A **distributed** term refers to *all* the members of the class it denotes; an **undistributed** term does *not* refer to all the members of its class. Each type of two-class statement distributes its terms in a different way, and the validity of a syllogism depends upon whether its terms are properly distributed.

Consider, first, the universal affirmative statement. If you know that *All people who believe in ghosts are superstitious people,* then you know something about *all* people who believe in ghosts, but you don't know anything about *all* superstitious people. To put it another way, this statement says that the *whole* class of believers in ghosts is *part* of the class of superstitious people. Hence "people who believe in ghosts" is distributed, but "superstitious people" is undistributed. On the other hand, if you only know that *Some people who believe in ghosts are superstitious people,* you don't know anything about *all* people who believe in ghosts *or* about *all* superstitious people. This (particular affirmative) statement says that *part* of the class of believers in ghosts is *part* of the class of superstitious people. Hence the subject-term and the predicate-term are both undistributed.

Now consider negative statements. If you know that *No scientists are people who believe in ghosts,* then you know something about *all* scientists (that is, you know that all of them are nonbelievers in ghosts), and you also know something about *all* believers in ghosts (that is, you know that all of them are nonscientists). In this (universal negative) statement, the *whole* class of scientists is excluded from the *whole* class of believers in ghosts. Hence the subject-term and the predicate-term are both distributed. Now consider the particular negative statement, *Some scientists are not people who believe in ghosts.* In this statement *part* of the class of scientists is excluded from the *whole* class of people who believe in ghosts. Hence the subject-term, "scientists," is undistributed, but the predicate-term, "people who believe in ghosts," is distributed.

This whole discussion is summed up in the following *Principle of Distribution*:

Universal statements distribute their subject-terms, and
Negative statements distribute their predicate-terms.

With this principle in mind, you can tell quickly which terms in a syllogism are distributed and which are not. In the following syllogism the distributed terms are in small capitals:

No PLUMP PEOPLE are NIMBLE PEOPLE.
All ACROBATS are nimble people.
Therefore:
No ACROBATS are PLUMP PEOPLE.

To see why each of these terms is distributed, simply apply the Principle of Distribution. For example, "plump people" is distributed in the first premise, where it is the subject of a universal statement, and it is distributed in the conclusion, where it is the predicate of a negative statement. "Nimble people" is distributed in the first premise, as the predicate of a negative statement, but not in the second premise, where it is the predicate of an affirmative statement.

The Principle of Distribution applies to all two-class statements, and it applies also to another type of statement that we haven't mentioned so far. Consider these statements:

The inventor of dynamite was Swedish.
Columbus did not discover Alaska.

Statements like these turn up frequently in ordinary discourse. They are not two-class statements, for their subject-terms do not refer to a *class* of things, but to *single* things (to Nobel, and to Columbus). Thus they are called "singular" statements. There is much to be said about them, and about the differences between them and two-class statements. But the point here is just this: as far as the Principle of Distribution goes, they can be treated like two-class statements. Thus the statement "The inventor of dynamite was Swedish" can be treated like a universal affirmative statement, with distributed subject-term ("the inventor of dynamite") and an undistributed predicate-term ("Swedes"). And the statement "Columbus did not discover Alaska" can be treated like a

universal negative statement with both terms ("Columbus" and "discoverers of Alaska") distributed.

Now we can state two rules that every valid syllogism must obey. The first is this:

The middle term must be distributed at least once.

If a syllogism doesn't have its middle term distributed at least once, its conclusion cannot follow. For example:

All good citizens are people who vote.
All the members of our organization are people who vote.
Therefore:
All the members of our organization are good citizens.

In both premises, the middle term ("people who vote") is the predicate-term of an affirmative statement, and so it is not distributed in either case. The syllogism commits the **fallacy of undistributed middle.** That's why it is invalid.

You will probably recognize this type of argument as a familiar one. Undistributed middles are a perennial source of crooked thinking. Usually they are at the bottom of any attempt to prove "guilt by association": Communists admire Marx; Jones admires Marx; therefore, Jones is a Communist. Surrounded by an adequate emotional aura, such arguments are frequently persuasive, though they are as illogical as: Joe DiMaggio hits home runs; Ted Williams hits home runs; therefore Joe DiMaggio is Ted Williams.

The second rule is this:

A term that is undistributed in a premise cannot be distributed in the conclusion.

Suppose one of the end-terms is undistributed where it appears in the premise, but distributed in the conclusion: then the conclusion of the syllogism goes beyond what its premises warrant, and the inference is invalid. For example,

All good citizens are people who vote.
The members of that club are not good citizens.
Therefore:
The members of that club are not people who vote.

The term to watch here is the same one we noticed before, "people who vote." But in this syllogism it is an end term, for it is the predicate of the conclusion. Now the conclusion is a universal negative statement (it is the same as "No members of that club are people who vote"), and so its predicate is distributed. But in the first premise, the term "people who vote" is the predicate of an affirmative statement, and there it is undistributed. In short, "people who vote" has passed in the course of the syllogism from an undistributed condition to a distributed condition: and a syllogism in which this happens commits the **fallacy of unwarranted distribution.**

There is one more thing you should watch out for when you are testing a syllogism. We have said that a syllogism must have three, and only three, terms. It is not a syllogism if, for example, it has no middle term, however much it may resemble a syllogism in other respects. Now, if one premise contains the term "parents," and the other premise contains the term "people who have children," we can still call the argument a syllogism, for these terms have the same designation and either of them could be substituted for the other in both premises. But if a term occurs in both premises with two *different meanings,* we really have two different terms, and therefore we have no middle term at all.

The following argument will serve as a rather obvious example:

> People who rent places to live in do not own them.
> These landlords rent places to live in.
> *Therefore:* These landlords do not own them.

It is clear that the word "rent" shifts its meaning from one premise to the other, from *paying rent* to *taking rent.* There is equivocation. Strictly speaking, then, the argument has four terms instead of three. It is not a fallacious syllogism, for it is not a syllogism at all. Yet it might be taken as a valid syllogism, if the equivocation were not noticed. Before we can apply the rules of the syllogism, we must make sure that an argument *is* a syllogism.

To keep our account of the syllogism very brief, we have limited ourselves to a few of the ways in which syllogisms go wrong. But if you practice applying and using the two fundamental rules, you

will be able to handle a great many crooked syllogisms: you can keep from being fooled by them, whether they are uttered by someone else, or by yourself.

A CHECK-UP QUIZ. Some of the following syllogisms commit one of the two fallacies described in this section. First underline the distributed terms, then put a circle around the correct abbreviation:

(UM) for "undistributed middle,"
(UD) for "unwarranted distribution,"
(OK) for "valid."

1. All timid creatures are furry. UM UD OK
   All rabbits are furry.
   Therefore:
   All rabbits are timid.
2. Every train runs on time. UM UD OK
   Busses are not trains.
   Therefore:
   Busses do not run on time.
3. No newspapers are infallible. UM UD OK
   All infallible things are trustworthy.
   Therefore:
   No trustworthy things are newspapers.
4. Some books are not well written. UM UD OK
   Some books are clear.
   Therefore:
   Some things that are clear are not well written.
5. No syllogisms have four terms. UM UD OK
   Some arguments have four terms.
   Therefore:
   Some arguments are not syllogisms.

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic.* New York: Prentice-Hall, Inc., 1950, ch. 10, §§46–48, 50.

§35. THE USES OF DEDUCTION

When we know how to recognize a valid argument of a certain

kind, we can test all arguments that have a similar structure; and, if we wish, we can make ourselves quite certain whether they are valid or invalid. But the rules of deductive logic enable us to do some other things that are of considerable practical importance. We shall point out three of these other uses, and discuss each one very briefly.

A. *Elliptical arguments.* In the first place, most of the deductive arguments that we encounter in the ordinary course of events turn up in more or less fragmentary, or elliptical, form. People argue deductively a good deal of the time, but usually they do not take pains to make their arguments perfectly explicit, as we did with the syllogisms in the preceding section. They often leave out some of their premises, either because they are not exactly sure what their premises *are,* or because they assume that we shall quickly recognize their premises and assent to them, or (sometimes) because their premises are rather dubious and they do not wish to call our attention to the weaknesses of their arguments. The basic premises of an argument are the underlying *assumptions* that the arguer is making: and when we are deciding whether to believe his conclusion, we must find out whether his assumptions are true. But we cannot find out whether they are true until we know what they *are.* Thus we need a method for getting at the implicit premises of an argument.

It works this way. A person says, "I looked those definitions up in a dictionary, so they *must* be right." Since he uses the word "must," we may take it that he thinks his conclusion follows necessarily from his premises, but it clearly doesn't follow from the *one* premise he has given us. If his argument is to be valid, we must suppose that he is tacitly assuming another premise. We rewrite his argument a little more formally, so we can get a good look at it:

> All these definitions are taken from a dictionary.
> *Therefore:* All these definitions are right.

To make the argument complete, obviously only one premise will do:

> [All definitions taken from a dictionary are right.]

We had better put this premise in brackets, to show that we are supplying it ourselves. Now our little jigsaw puzzle is complete: we know what the arguer must assume in order to deduce his conclusion correctly. Whether the assumption is *true* is, of course, another question.

In this example, we may not want to quarrel with the hidden assumption; at least we shall agree that there is some good reason to believe it, especially if we are told the name of the dictionary and it appears to be authoritative. But we didn't know whether we wanted to question the hidden assumption or not until we knew what the assumption was. This is usually the problem. For in many cases the assumption is much more difficult to bring into the light of day; and very often, when it is revealed, it turns out to be somewhat debatable. Consider, for example, the following argument:

> Only where there is economic freedom is there freedom of religion; therefore, there can be no freedom of religion without political freedom.

This is a pretty hard one to figure out, but if we take it step by step we can uncover the hidden premise. Take the conclusion first: "There can be no freedom of religion without economic freedom." This can be more clearly stated:

> No places where there is freedom of religion are places without political freedom. (*Conclusion*)

The explicit premise can also be more clearly stated:

> All places where there is freedom of religion are places where there is economic freedom. (*Explicit premise*)

And we can now see that the hidden premise must be the following one:

> [No places where there is economic freedom are places without political freedom.] (*Implicit premise*)

The *next* question is whether the implicit premise is acceptable; but that would take us beyond the present subject.

The critical reader keeps a wary eye out for underlying assumptions, especially when they are not even mentioned; and what holds for the reader holds also for the writer. When you set out to present a deductive argument, and you want to make it really convincing, you have to discover your own assumptions. If the argument is complicated, you can't present *all* your premises, and many of them do not need to be explicitly stated. But you can ask yourself such questions as these: "What am I taking for granted here? Am I sure of the truth of all my premises? Have I given the reader enough of them so that he can see my point? Have I left unstated only those premises that are easily found and readily granted?" Whether you succeed in making your point or not may depend on how well you answer these questions.

B. *Syllogism-chains.* In the second place, we sometimes want to discover the hidden implications of a set of statements that we accept, or are about to accept. A single syllogism, when we state it explicitly, often seems like a rather trivial sort of argument. It only carries our reasoning one step beyond the premises, and often the step is easy to foresee. However, the syllogism is not trivial, any more than a single link of a chain is trivial because you can't fasten two cars together with it. It takes a number of links to do that. In the same way, it takes a number of syllogisms (and of other, and more complicated, types of argument) to get our thinking very far. We can construct a *syllogism-chain,* that is, a series of syllogisms, set in a row in such a way that the conclusion of one syllogism becomes a premise of the next.

Now, to handle syllogism-chains with great confidence takes considerably more study than we have room for here. But we shall give an example of such a syllogism-chain, because it will help to make clear the second important use for the rules of deductive inference. Suppose we have reason to believe that the following statements about a particular business are true:

(1) All the married men are on strike.

(2) Every man in the Advertising Department has been employed at least five years.

(3) None of the men on strike have been employed at least five years.

The problem is: what do these statements, taken together, imply?

Now, if you have had a lot of experience with syllogisms, you may be able to see the implications at once. If you have not, you need a method of revealing the implications step by step. The syllogism is just such a method. If we put statement 2 and statement 3 together, and make a syllogism, we can draw the following conclusion:

(4) None of the men on strike are in the Advertising Department.

If we put statement 4 together with statement 1, and make another syllogism, we can draw the following conclusion:

(5) None of the married men are in the Advertising Department;

or, if we wish, we can draw the *converse* of statement 5, which, of course, is equivalent to it:

(6) None of the men in the Advertising Department are married.

Just from looking at the three premises, it wasn't obvious that we could draw this conclusion from them. But when we make a chain of syllogisms, we see that the conclusion is clearly implied. What is true in this simple case is of course even more true in other cases where there are, not three premises, but perhaps dozens of them. On many important subjects, we carry around with us whole clusters of beliefs, of which we may be more or less clearly aware, and for which we have more or less adequate reason. It is enormously valuable, and it may be vital, to find out the implications of what we believe. If we don't know the implications, we believe inconsistent things (because we don't see the inconsistency), and the hopes and actions we base upon our beliefs are bound to run aground. We frustrate ourselves by seeking incompatible aims, and undo one day what we have done the day before.

C. *Circular arguments.* In the third place, there is another way in which a deductive argument can go astray—not because it is crooked, but because it is *circular.* A deductive argument claims to establish its conclusion by deducing it from *other* statements that

have already been established. But if the argument assumes as a premise (explicitly or implicitly) the very statement it claims to prove, it proves nothing at all. Such an argument *begs the question* it seeks to answer.

The simplest kind of circularity is not hard to detect, provided you are on the lookout for it, and provided its context and tone do not give it too impressive a sonority. A speaker says:

> The government should by no means intervene in the *domestic* affairs of our citizens, for it is not one of the functions of government to interfere with *family life.*

It is just possible that the speaker means to make an important distinction here between domestic affairs and family life; but the chances are that he is going in a circle. For the conclusion seems to state, in different words, just what the premise states. Of course the conclusion may still be true; all we can say is that the argument doesn't *prove* it.

In more complicated cases, circularity is more carefully concealed. We may cite another example, without pausing to analyze it thoroughly.

> Centralized economies discourage initiative, because they are planned. Economies that discourage initiative are inevitably wasteful. But planned economies are always centralized. *Therefore,* planned economies discourage initiative.

This passage contains a good many confusions, but we shall note only one. The first sentence is a fragmentary syllogism, with a missing premise. That premise, a basic assumption of the argument, is the following one:

> [All planned economies are economies that discourage initiative.]

And this is exactly the conclusion: "planned economies discourage initiative." That's why the argument is circular. When we come to the end of it we know no more than we knew at the beginning.

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic.* New York: Prentice-Hall, Inc., 1950, ch. 10, §49, and ch. 11, §§53–55.

Outline-Summary of Chapter 7

Every statement has a *logical form* and also *logical content:* for example, in the statement "All sharks are dangerous," the form is indicated by the words "All . . . are — — —," which show the statement to be of the type that asserts that one class of things is included in another class of things; the content is indicated by the subject-term "sharks," and the predicate-term "dangerous (things)," which refer to the two classes.

When two statements have the same logical form and the same logical content (even if the classes are denoted by different words), they may be said to be *logically identical;* for example:

"All sharks are dangerous,"
"Every shark is dangerous,"
"Any shark is capable of doing harm."

Two statements are *logically connected* if the truth or falsity of either of them implies the truth or falsity of the other; otherwise, they are *logically independent.* Two connected statements may be *equivalent,* in that they imply each other ("All sharks are dangerous" and "No sharks are non-dangerous"), or *incompatible,* in that one of them implies the falsity of the other ("All sharks are dangerous" and "Not all sharks are dangerous").

A deductive argument is an argument claiming that a certain conclusion follows necessarily from certain *premises;* it is a *valid* argument if, and only if, the premises actually imply the conclusion. One of the simplest types of deductive argument is the *syllogism,* which has the following features:

(1) It contains three *statements* (two premises and a conclusion), which may be either (a) singular statements ("The moon is cold"), or (b) two-class statements, of which there are four types:
   (i) universal affirmative ("All moths are insects");
   (ii) particular affirmative ("Some moths are night-flying creatures");
   (iii) universal negative ("No moths are butterflies");
   (iv) particular negative ("Some moths are not night-flying creatures").

(2) It contains three *terms.* For example:
   No sharks are gentle.
   Some fish that are easy to catch are gentle.
   Therefore: Some fish that are easy to catch are not sharks.

In this syllogism, "gentle (things)" is the *middle term,* appearing in both premises; the *end terms* are "sharks" and "fish that are easy to catch."

The two most commonly committed fallacies of syllogistic reasoning are:

(1) the fallacy of undistributed middle, and
(2) the fallacy of unwarranted distribution.

Besides enabling us to discover the validity or invalidity of presented arguments, deductive logic gives us methods for discovering the unstated assumptions underlying an argument, for discovering the implications of a set of beliefs, and for exposing the *circularity* of an argument when it tacitly assumes as a premise the very conclusion it claims to prove.

Exercise 33

Consider each of the following pairs of statements. In each case, indicate the *logical form* of the statements and the *logical connection* between the statements, by putting circles around the correct abbreviations.

		Logical Form	*Logical Connection*
1.	(a) Not all homicides are murders.	UA PA UN PN	
			Eq Inc Ind
	(b) Some murders are not homicides.	UA PA UN PN	
2.	(a) Unthrifty people are never out of debt.	UA PA UN PN	
			Eq Inc Ind
	(b) There are a few unthrifty people who are out of debt.	UA PA UN PN	
3.	(a) No governments founded on force are secure.	UA PA UN PN	
			Eq Inc Ind
	(b) Only governments not founded on force are secure.	UA PA UN PN	
4.	(a) All kettles are black.	UA PA UN PN	
			Eq Inc Ind

(b) Some things that are not black are kettles. UA PA UN PN

5. (a) Some members of the Board of Directors are not members of the Advisory Board. UA PA UN PN

Eq Inc Ind

(b) Not all members of the Advisory Board are members of the Board of Directors. UA PA UN PN

6. (a) Recent arrivals are required to report at this place. UA PA UN PN

Eq Inc Ind

(b) Some people who are required to report at this place are not recent arrivals. UA PA UN PN

7. (a) Inland water routes that could be made navigable are under the supervision of Congress. UA PA UN PN

Eq Inc Ind

(b) No inland water routes that are not under the supervision of Congress could be made navigable. UA PA UN PN

8. (a) Trashy literature does no harm to people who don't read it. UA PA UN PN

Eq Inc Ind

(b) Only people who read trashy literature are harmed by it. UA PA UN PN

9. (a) People who always complain are always unhappy. UA PA UN PN

Eq Inc Ind

(b) Only people who always complain are always unhappy. UA PA UN PN

10. (a) Stew is tasty, provided it is properly cooked. UA PA UN PN

Eq Inc Ind

(b) Stew that is properly cooked is nevertheless frequently tasteless. UA PA UN PN

Exercise 34

Examine each of the following syllogisms carefully. If necessary, rewrite it to make its structure clear. Then say whether it is valid or invalid; and, if it is invalid, whether it commits the fallacy of *undistributed middle* or the fallacy of *unwarranted distribution.*

1. All lies are wrong, but some lies are unavoidable; therefore, some wrong actions are unavoidable.
2. Every Socialistic measure is a measure that enlarges the activities of the Federal Government. And every appropriation for Federal aid to education is a measure that enlarges the activities of the Federal Government. Therefore, every appropriation for Federal aid to education is a Socialistic measure.
3. Constructive criticisms are always useful criticisms. But his criticisms are not constructive; therefore, they are not useful.
4. All members of the National Association of Manufacturers are believers in a competitive economy, but no believers in a competitive economy would be in favor of high tariffs. It follows that no one who is in favor of high tariffs is a member of the National Association of Manufacturers.
5. Since every new invention is an advance in manufacturing efficiency, though not every advance in manufacturing efficiency is a direct benefit to labor, it is obvious that some new inventions do not directly benefit labor.
6. It takes a person with a good deal of confidence in his own judgment to oppose public opinion. Since the members of the Board of Education apparently are not going to oppose public opinion, it is clear that they do not have much confidence in their own judgment.
7. Only luxury goods ought to be taxed, but cosmetics are surely luxury goods; therefore, cosmetics ought to be taxed.
8. No one who is in favor of prohibiting closed-shop labor contracts is a friend of labor, but some industrialists are friends of labor. It

follows that not all of those who are in favor of prohibiting closed-shop labor contracts are industrialists.

9. Some of the President's closest advisers are urging him to drop the politically embarrassing farm subsidy plan, but not one of them has first-hand experience with the problems and needs of American farmers. This implies that some of those who are urging the President to drop the plan are men who have had no first-hand experience with the problems and needs of American farmers.
10. In order to be qualified for the post, a man must have a great deal of knowledge about atomic physics. All of the candidates in question undoubtedly have that knowledge, so they are unquestionably qualified.

Exercise 35

Supply the missing premise for each of the following syllogisms:

1. Washo Soap Flakes burst instantly into fluffy suds—you can see they *must* be good.
   Missing premise:
2. Freshmen can't be expected to know their way around—after all, they haven't been here very long.
   Missing premise:
3. It cannot be right for children to make a great deal of noise, for this irritates their parents.
   Missing premise:
4. Some nursery rhymes are very sadistic, so they are surely bad for children.
   Missing premise:
5. It is not true that all human beings are selfish, for some human beings sacrifice themselves for others.
   Missing premise:
6. All peacetime Army contracts should be let after competitive bidding, because only contracts that are bid for competitively will save money for the taxpayers.
   Missing premise:
7. All high-school students should have courses on how to drive a car—after all, this is a very important thing for them to know.
   Missing premise:
8. It is ridiculous to expect that we will ever finally get rid of nationalism, when it has been rampant for so many centuries.
   Missing premise:

9. It is certainly within the power, and even the duty, of Congress to pass laws that will secure equal educational opportunities for all, since such laws undoubtedly "promote the general welfare."
Missing premise:
10. Only members of the House of Representatives should be allowed to introduce tax bills, because only they are elected for a short enough term to keep them closely in touch with the people.
Missing premise:

Exercise 36

Each of the following passages has one major fault that has been discussed in the present chapter. In each case, explain clearly what it is.

1. The premises of a deductive argument are not themselves proved in the argument. What is not proved should not be believed. Therefore, the premises of a deductive argument should never be believed.
2. It is impossible to change human nature. This is proved by the fact that human nature is unalterably fixed.
3. Detective stories written (under an assumed name, of course) by leading poets are always full of literary allusions. This detective story is full of literary allusions, so it must have been written by a leading poet.
4. "Only those who have worked in the mines themselves," says this self-appointed champion of the coal-miners, in his article urging nationalization of the mines, "can understand the imperative need of nationalization." Well, I have worked in the mines, and I must confess that I do *not* "understand" this need. Obviously Mr. P——— is talking through his hat again.
5. Politics is the art of imposing one's will on other people by legal means; it is a necessary evil in our society, but it has nothing in common with the higher things of life. Medicine is the art of healing, and it only becomes sordid and ineffectual when it is confused, or even tainted, with politics. That is why we must keep politics out of medicine. Doctors should not be politicians.

   But today we witness increasingly strong attempts to make the medical profession a mere organ of the government bureaucracy. And we must resist these attempts to the end. We must fight fire with fire. Some of us must get to work to show people the dangers we face; to swing public opinion behind us; some of us

will have to get into politics to defeat socialized medicine. That is why we are raising this fund, to which all members are required to contribute.

6. You have agreed that if a criminal is known to be insane he should be treated mercifully, but the members of this ring were *not* insane; therefore, you must admit that they deserve no mercy.
7. No efficient governments function in a really democratic way, because democratic governments have to worry about the rights of minorities. Now, parliamentary governments are democratic, therefore they, too, are not efficient. However, only parliamentary governments respect the rights of minorities, and the conclusion, therefore, is that no governments that respect minorities are really efficient.
8. The catalogue of the present Administration's iniquities is too long for me to rehearse on this occasion. But some of its errors are too gross to be passed by. Every attempt the Administration has made to diminish labor-management conflict has succeeded only in increasing that conflict. As a result of its policies, strikes are more numerous and serious now than they were before. On each occasion when the Administration has intervened to decrease the number and severity of strikes, its intervention has backfired and produced precisely the opposite result. Not merely has it failed to reduce the struggles—it has sharpened them and extended their scope. . . .
9. That Elgar is a great composer you must admit: we have it on the authority of the eminent British music critic, Sir Donald T———, whose authority is sufficiently shown by the excellent discernment he displays in recognizing the superior merit of Elgar.
10. Every known fact that was damaging to the defendant was introduced at the trial; it follows, then, that all the facts introduced at the trial were damaging to the defendant.

8

WHAT'S THE EVIDENCE?

Most of us can board a bus or street car, pay our fares, and go where we want to go without giving a thought to the complicated web of activities that keep the busses running every day. But when a serious disagreement arises among the various groups of people who are concerned in those activities, and there is a threat that the busses will stop running, somebody has to start thinking. In a typical case, the bus drivers ask for a raise in pay, the company asks for a raise in fares, and the interested public protests that the service is poor and already too costly.

Under the best of conditions, with everyone keeping his temper, it would not be a simple matter to settle the issue fairly. But when we are really aroused, we are strongly tempted to take the easiest way of disposing of the problem, by applying some simple all-too-simple rule ("The drivers are greedy" or "The company is always wrong") and driving it home by force. This saves us a lot of trouble at the time, for it enables us to "solve" the problem without even bothering to find out exactly what it is. But experience is constantly reminding us that "solutions" of this sort have a way of breeding further, and less disposable, problems.

The settlement, in such conflicts as this, if it can be reached, will usually depend upon first obtaining an answer to a number of questions around which the disagreement turns. Are the drivers being paid enough to live on? Is the company receiving adequate returns on its investment? Is the company operating efficiently? These questions may be rather vague in the beginning, but they point in the direction of information that is needed before an intelligent and lasting solution can be found. If there is no other way to get this information, the Mayor may appoint a "fact-finding

board" and direct it to discover and report the actual working and operating conditions of the transportation company.

This is not the place to go into the merits of fact-finding boards: perhaps we are inclined to expect too much of them. But we may suppose that, in the matter we are considering, the board goes at its job carefully and without bias. And we may suppose that it does find some facts. Now, some of these facts will be matters of fairly easy and direct observation—for example, that the company's books report such and such assets on December 1, or that a particular driver owes $500 to a loan company. Even these statements may be subject to question, but if they are taken by the board as reliable material for its investigation, they become *data,* the given facts it has to work with.

But such data will not be of interest to the board for their own sake; their importance will lie in the *conclusions* that can be drawn from them—for example, that the company, at current rates, is not taking in enough receipts to enable it to replace old and inefficient busses, or that more than half of the bus drivers are not earning enough to make ends meet.

Thus, in its report to the Mayor, the fact-finding board may say:

> On the basis of interviews with twenty drivers, representing a cross-section of this group, we conclude that a majority of those drivers with two or more children have gone into debt in the past year, despite careful economies, and will soon be compelled to give up their jobs unless their wages are increased.

This is clearly an argument, and it is an argument of a very familiar sort. But it is different from the kind of arguments that we considered in the preceding chapter. The conclusion is about a *majority* of the drivers; the reason is based upon interviews with only *twenty.* The reason cannot strictly imply the conclusion, yet it is still a reason, and it may be a good reason. But if it is a good reason, it will not be because it is a set of premises from which the conclusion can be deduced, but because it is *evidence* for the conclusion. The question is: how much reliance can we place upon the interviews with twenty drivers as a basis for believing the conclusion about a majority of them?

In short, this argument is an *inductive* argument. You can often tell that an argument is inductive, rather than deductive, because it contains phrases like "it is probable that . . . ," or "very likely . . . ," or "it seems to indicate that. . . ." Such phrases show that an argument does not claim that its conclusion follows necessarily from certain premises, but that its conclusion is reasonable to believe in view of the facts set forth as evidence. Deduction is a matter of recognizing valid logical forms, but induction is a matter of *weighing evidence*. We have to do this all the time; and, generally speaking, we do it most successfully when we are most deliberate about it, that is, when we know clearly what we are doing. Though inductive reasoning, unlike deductive reasoning, cannot be reduced to precise rules, there are certain important general principles that are useful to keep in mind. In the present chapter, we shall consider some of these principles.

§36. THE INDUCTIVE LEAP

Perhaps the most important single thing to know about inductive arguments is that they are *not* deductive arguments. This puts the matter in a negative way, but it emphasizes a distinction that is of the deepest importance for straight thinking. Induction is a way of reasoning, like deduction, and, indeed, the two are complementary to each other. But induction is a very different way of reasoning. To make the difference clear, we must begin by distinguishing the two kinds of inductive conclusion: first, *generalizations,* and second, *hypotheses.*

The first kind of inductive argument—that which leads to a generalization—has a relatively simple structure. Suppose we choose a class of things that we are interested in: pineapples, farmers, elections, books written by Beatrix Potter—it doesn't matter for our present purpose, provided we choose a class that has more than a few members. Now suppose we get information about some of the things in the class (we taste a few pineapples, or interview a thousand farmers), and on the basis of this information we assert that something is true of *all* or *many,* of the things in the class: that all pineapples are sweet, or that 63.02 per cent of the farmers are in favor of co-op-subsidies. Then we are *generalizing.*

In a simple case, if we should set forth our reasoning, it would shape up like this:

> The pineapple I tasted Tuesday was sweet;
> That pineapple over there is sweet;
> Pineapple number three is sweet . . .
> *Therefore:*
> All pineapples are sweet.

The conclusion of this argument, "All pineapples are sweet," goes beyond the reason given. *Three* pineapples are offered in evidence, but the conclusion is about more than those three: it is more *general* than the evidence. That is what is meant by calling it a **"generalization."**

When we set a generalization-argument out in this way, with the evidence clearly separated from the conclusion, it is quite apparent that the argument is not a deductive one. That all pineapples are sweet does not follow *necessarily* from the fact that three pineapples are sweet. Yet the sweetness of those three pineapples is some reason (however small) for believing that all pineapples are sweet. Why is this so? Because every sweet pineapple that we find is an *instance* of the generalization. When we infer a generalization from a number of instances, we are reasoning according to a principle that may be stated as follows: *Every instance of a generalization is positive evidence that the generalization is true.* Of course, a single instance doesn't *prove* that the generalization is true: one black swan isn't enough to show that all swans are black, or even that most swans are black. But every individual black swan is legitimate evidence in favor of some generalization about the blackness of swans in general.

We have indicated that generalizations don't have to begin with the word "all"—in short, that not all generalizations are *universal* statements. The universal ones (like "All pineapples are sweet"), whether true or false, may be called **"unlimited generalizations"**; the particular ones (like "Most swans are white" and "76 out of 100 men over fifty are bald") may be called **"limited generalizations."** But the same basic principles of reasoning apply, whether the generalization has to do with 76 per cent or 100 per cent of the class with which it is concerned.

The second kind of inductive argument leads to a hypothesis. This is the kind we are familiar with in criminal trials, in detective stories, in historical investigations. In this kind of argument the conclusion is not a general statement about a class of things, but a statement about a certain individual, or a certain event, or a certain state-of-affairs. "Mr. Blank was guilty of treason," "Mrs. P was being blackmailed by Miss Q," "Hitler committed suicide in his bunker under Berlin." We do not know the truth of these statements from direct observation. Even those who claim to have seen Hitler's body before it was burned in the back yard of the Chancellery were not actually present when the shot was fired. They say they heard the shot, entered Hitler's room, and saw the body. They drew the conclusion that Hitler had committed suicide. But this was an inductive *conclusion* from the evidence; it was, and is, a **hypothesis.** And the evidence for it is not fundamentally different from the sort of evidence from which the historian concludes, let us say, that Brutus stabbed Julius Cæsar or that Caligula poisoned Tiberius.

A hypothesis-argument, when explicitly set forth, will look like this:

> Mr. X and Miss Y were observed frequently in each other's company until last Saturday.
> Since last Saturday they have not been seen together.
> Mr. X is reported to have been very glum and irritable since last Saturday.
> Until last Saturday Miss Y wore an engagement ring on her finger, but it has not been seen there since.
> When someone mentioned Mr. X's name to Miss Y yesterday, she quickly changed the subject.
> *Therefore:*
> Mr. X and Miss Y had a quarrel last Saturday.

This argument doesn't concern an event of major historical importance (after all, we don't know that the alienation is permanent); but it has all the important features of any argument for a hypothesis. Again, we must note that this argument is not deductive; yet the given facts are reasonably good evidence that the

conclusion is true. Our question is: How do those facts constitute evidence for the conclusion?

Take the fact that Miss Y has removed a ring from her finger: Why do we accept this as evidence (though of course not *conclusive* evidence) that she has quarreled with Mr. X? It is possible that she just got tired of the ring, or that she sent it to the jeweler's to be repaired. Still, if we were asked why we think this fact is relevant to the conclusion, we might say, "She behaves in this respect *as though* she has quarreled with Mr. X." In short, we are assuming a certain generalization (presumably based upon experience) that when there is a serious quarrel between a man and a woman to whom he has given a ring, the woman generally stops wearing the ring. You might say this generalization is rather leaky; admittedly, it can't be pushed too far. But clearly it is this generalization that links up the known fact with the inferred conclusion in such a way that the fact becomes *evidence for* the conclusion.

Thus, in this second kind of inductive argument we have the following elements. First, we have a number of facts that are the data of the argument. Second, we have a hypothesis. Third, we have certain assumed generalizations connecting the hypothesis with the facts. The hypothesis gets its convincingness from its ability to *account for* the facts. The fact that Miss Y has stopped wearing the ring *can* be accounted for in a number of ways; but, when all the known facts are put together, the best way of accounting for them is to suppose that Miss Y and Mr. X have quarreled. That would explain *why* she stopped wearing the ring; it would explain *why* they have not been seen together since last Saturday; and so with all the other facts. The general principle that underlies our reasoning is fairly clear, and it may be stated in the following way: *Every known fact that can be accounted for by a hypothesis (assuming that certain generalizations are true) is positive evidence that the hypothesis is true.*

There are two kinds of inductive conclusion, then, and their relationships to the evidence for them are quite different. To give evidence for a generalization, we must report *instances* of the generalization. For example, we can report the fact that a particular prize-fighter has died in poverty as an instance of a generalization

about all, or most, prize-fighters dying in poverty. To give evidence for a hypothesis, we must present facts that are *accounted for* by the hypothesis. For example, we can account for the fact that a man was seen in the company of a known spy by the hypothesis that the man was passing on treasonable information about nuclear energy.

When it comes to the question whether to *believe* an inductive conclusion or not (a question we shall discuss further in the next two sections), the problem is a good deal more complicated. For in the first place, any particular fact is an instance of many possible generalizations, most of which are quite untrue. Thus we may learn from the back cover of a national magazine that "Doris Droop, star of stage and screen, likes Nibelung, the *dry* beer." And no doubt we are expected to generalize from this important fact. But if this *is* a fact, it is an instance of all the following (as well as countless other) generalizations, not all of which are true:

All actresses like Nibelung beer.
One-tenth of one per cent of all actresses like Nibelung beer.
All actresses whose names begin with "D" like Nibelung beer.
Most screen stars like Nibelung beer.
All women like Nibelung beer.
Everybody likes Nibelung beer.

The question is always *which* generalization is the right one to make.

In the second place, every particular fact can be accounted for by many possible hypotheses. Thus, if Mr. Blank has a black eye, this fact can be explained by any of the following (as well as other) hypotheses:

Mr. Blank was punched in the eye.
Mr. Blank ran into a door.
Mr. Blank was hit by a flying ball.
Mr. Blank fell out of bed.

And again the question is *which* hypothesis is the right one to accept.

We see now why the inductive argument is totally different from the deductive argument, though unfortunately the term "deductive" is often used ambiguously for both kinds. The storybook detective

sometimes speaks of "deducing" his solution of the murder from the facts at hand; but it is clear that his solution is a *hypothesis* to explain those facts. It may be the *best* explanation of the facts, but it is an induction nevertheless, not a deduction. The "graphologist" speaks of "deducing" people's character or personality from their handwriting—she asserts, for example, that long strokes indicate an emotional personality, or generosity, or forgetfulness. Now, it is a serious question whether anything can even be *induced* from handwriting; but there can be no question that if anything *can* be inferred, it is inferred inductively. It would be a generalization to say that such-and-such a sort of person always, or usually, writes in such-and-such a way, and a generalization is never conclusively established.

In a valid *deductive* argument, if we grant the premises, we must also grant the conclusion; otherwise, we contradict ourselves. But even in the best inductive argument, if we accept the evidence, we can still deny the conclusion, without the least inconsistency. That is why every inductive argument makes a kind of *leap* from its evidence to its conclusion. Not that we must always leap in the dark, for it is just the business of inductive logic to help us make sure that the leap is made in the best light, and is well calculated to reach the farther bank. The point is that whenever we make an *inductive* inference we are taking a risk; we can never eliminate the possibility of being mistaken. All we can do—and this is much —is to cut down the chances of error as time and energy permit. We can keep from merely jumping to conclusions: we can at least look before we leap.

A CHECK-UP QUIZ. Here are five simple inductive arguments. In each case indicate whether the conclusion is a *generalization* or a *hypothesis* by putting a circle around the correct abbreviation.

1. Mr. Jones has been taking the bus to work this week, and his shiny new convertible isn't in his garage. The finance company must have taken away his car. Gen Hyp
2. This reporter talked with several people who were at the meeting, and I can assure my Gen Hyp

readers that ninety per cent of that audience of 15,000 were out-and-out fellow-travelers.

3. Though he has made some mistakes, his record as a political prognosticator has been very good. At least three-quarters of his predictions have been borne out by subsequent events. I should think he would be a reliable guide to follow in the future. — Gen Hyp

4. It is quite certain that Cutler wrote the letter. It is in his handwriting, on his personal stationery; and his fingerprints, and no one else's, are on it. Moreover, two reliable witnesses have testified under oath that they saw him writing it at his desk. — Gen Hyp

5. I have looked everywhere for my watch. It is not in any of my clothes, or in any likely place around the house. I have checked with the lost-and-found department of the stores and street-cars I have been in during this week. I have even looked around the outside of the house. The only thing I can think of is that it has been stolen. — Gen Hyp

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic*. New York: Prentice-Hall, Inc., 1950, ch. 7, §§31, 34–35.

§37. APPRAISING A GENERALIZATION

In the preceding section we talked about only one aspect of generalization-arguments: their abstract structure. Good or bad, they all contain (*a*) a collection of particular instances, and (*b*) a conclusion asserting that what is true of those instances is true of a lot of *other* instances that have not yet been examined, and perhaps may never be examined. Now we come to the practical question. We want to know the difference between a good generalization and a poor one. This is a large question, to be sure, and we shall have to limit ourselves to a short answer. There are a few major points to keep in mind as a protection against the most fla-

grant abuses of our ability to generalize; we shall simply state these points and illustrate them briefly.

As a basis for discussion, we shall take three fairly typical examples of generalization. If we were concerned to show how the empirical scientist is able to obtain generalizations of the very highest degree of reliability, we should choose more technical examples from physics or chemistry. But our discussion will remain close to everyday experience. Here are the three examples:

Example 1: An inspector in a canning factory dips a dozen times into a vat of apricots ready for canning, and after an examination reports that the whole lot is of Grade B quality.

Example 2: A young man gives up three jobs because he feels he has been unfairly treated by his boss. All three bosses have red hair, so he resolves never to work for anyone with red hair again.

Example 3: A man eats an artichoke for the first time in his life, while celebrating a raise in pay. The same night he is ill, and he decides that artichokes don't agree with him.

Now, suppose you are presented with a generalization-argument, and you have to make up your mind about it. You want to know what it's worth: you must *appraise* it. This takes two steps. The *first step* is to get the argument clearly in mind, and particularly to see exactly what are the two classes involved. (1) There is always the class generalized *about:* we shall call it the **"class under investigation."** And it is important to be clear about *what* proportion of *what* class the generalization applies to. In Example 1, the generalization is about the quality of *most* apricots in a particular batch; in Example 2, the generalization is about the fairness of *all* red-haired bosses. (2) There is always a class generalized *from,* and this class is part of the class under investigation; more technically, it is a subclass of it. The things in this subclass constitute a **sample** of the class under investigation, as the apricots dipped out of the vat are a sample of the entire batch. Sometimes (like the apricot-inspector) we are free to pick our samples; sometimes we have to take what comes along, and in this case our only

choice is whether to generalize or *not* to generalize from the sample we have.

When you are clear about the exact ingredients of a particular argument, you are ready to take the *second step* in making up your mind about it. For now you can inquire about the value of the sample that is offered. Does the sample constitute adequate evidence for the generalization? In other words, is it a good sample of the class under investigation? A good sample is one that is typical of the class of which it is a sample.

To find out whether the sample offered is a good one or not, you have to think of the possible ways in which it could be biased or misleading. In other words, this is the key question to ask about a generalization-argument:

> *Is there any reason to believe that the sample is not typical of the class under investigation?*

To see what such a reason might be, we may consider the simplest sort of case. A good shopper doesn't judge a basket of blueberries by the ones on top; he pours out a few to look at the ones underneath. And the principle applies to every sample, no matter what it is a sample of. We *could* take the berries on top as a sample of the whole basket. But we don't: we ask whether there is any reason to believe that the berries on top are not typical of the whole basket. Of course there is such a reason: we already know *another* generalization that would explain how the berries on top might easily be of a higher quality than the ones underneath. This generalization is that storekeepers and berry-packers generally put only the best berries on top of the basket.

If someone should say to us, "Look at these fine berries on top; the whole basket must be very good," we should reply that the berries on top are not a good sample because they may have been put there deliberately. We *refuse* to generalize from the ones on top. If we were as careful and sensible in generalizing about people as we are about blueberries, we should save ourselves many costly and tragic errors. With blueberries, we act as though we really cared about knowing the truth. With human beings, we act, all too often, as though we cared only about keeping our prejudices intact, whatever the truth may be.

Now, let's see how we come out if we apply our key question to the three examples given above. Example 1 stands up fairly well under the test. If the inspector stirs up the vat before each dip, or if he dips in different places and at different depths, there is no reason to doubt that his samples are typical. Especially if he finds that his samples are much alike, he is surely justified in depending rather heavily upon his generalization.

In Example 2, we have a good reason to doubt that the three bosses in the sample are typical of the whole class of red-haired bosses. We know that human beings (including red-haired bosses) differ a great deal one from another—in other words, the class under investigation is extremely variable (much more so than the inspector's apricots). In such a case, a sample consisting of three bosses could not be expected to reflect accurately the expected variations among red-haired bosses. The sample is too small to include instances of all the important, and perhaps relevant, differences among bosses. We know from previous experience, for example, that the fairness of human behavior is adversely affected by various common ailments: by ulcers, colds, high blood-pressure, and many other ills. If we want a sample large enough to be dependable, we should at least make it large enough so that it could include red-haired bosses in various stages of health or various sorts of ill health.

In Example 3 the sample consists of only a *single* instance, one case in which eating artichokes was followed by illness. And here we have very good reason to suspect that it is not a typical case. The artichoke was eaten during a *celebration,* and we know that several other peculiar circumstances attending the celebration could have been responsible for the illness. Of course, the illness *may* have been caused by the artichoke—it may be a true generalization that *every* time this man eats artichokes he will be ill. But the evidence is far from establishing this conclusion.

In short, the last two arguments commit two well-known and yet pervasive fallacies of inductive inference. When we generalize from too small a sample, we commit the **fallacy of hasty generalization.** The young man's conclusion that all red-haired bosses are unfair is a flagrant example of jumping to conclusions. The most extreme type of hasty generalization occurs when we build a gen-

eral principle upon a solitary instance, like the artichoke-eater. Because illness followed artichoke-eating on *one* occasion, he jumps to the conclusion that it will *always* follow—in other words, he takes the illness to be an *effect* of the artichoke. This is the fallacy of **post hoc ergo propter hoc** ("after this, therefore because of this"), by which we all too often convert mere coincidence into a false causal generalization. A generalization should never be drawn from a single instance.

A CHECK-UP QUIZ. Here are five generalizations and the samples on which they are based. In each case give a reason why the sample is likely not to be typical of the class under investigation.

1. *Generalization:* Every page of this newspaper contains stories about sex and crime.
   Sample: The first page contains stories about sex and crime.
   The sample is not typical because:
2. *Generalization:* This student will make a poor record in all his examinations in college.
   Sample: He received five low grades on examinations taken a few months after arriving from abroad.
   The sample is not typical because:
3. *Generalization:* 86.83% of the people in this city are against the proposed increase in the entertainment and luxury tax.
   Sample: 1800 people were interviewed on their way into the Palace Theatre, during the month of June, and 1563 people said they were against the increase.
   The sample is not typical because:
4. *Generalization:* All Negroes are ignorant.
   Sample: A Post Office official in a rural section of Mississippi dealt with over 5000 Negroes and found them all ignorant.
   The sample is not typical because:
5. *Generalization:* Most college students are reckless drivers who become involved in accidents, usually when intoxicated.
   Sample: Of hundreds of references to college students in the news columns of the *Journal-American* between September and June last year, a majority of the students mentioned were involved in car accidents that were partly caused by negligence on their part.
   The sample is not typical because:

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic*. New York: Prentice-Hall, Inc., 1950. ch. 12, §§58–59, and chs. 13–14.

§38. APPRAISING A HYPOTHESIS

In the first section of this chapter we summarized the basic structure of the inductive argument for a hypothesis. We saw that in such an argument a number of facts are assembled and brought to bear upon the hypothesis, which derives its convincingness from its capacity to account for the facts. And it accounts for the facts by being connected with them through known generalizations. This is the way a prosecuting attorney builds his case, and, with many added complications, it is the way a scientific theory grows and becomes accepted by experts. It is also the way we work out our answers to questions that turn up in everyday experience, when we have to make important practical decisions.

In order to get more deeply into the working of hypotheses, let's examine the following argument:

> An overturned skiff was found drifting in the Sound early this morning, and brought in by fishermen. Inquiry revealed that the skiff had been taken out yesterday noon by a Mr. John Smith, who expressed the intention of fishing all afternoon. A heavy storm came up suddenly about four o'clock in the afternoon, and it has been ascertained that Mr. Smith was unable to swim. It is presumed that he met death by drowning.

Ignoring the inevitable jargon in this report, we can nevertheless obtain from it a certain set of relevant facts: the drifting boat, the storm, Mr. Smith's inability to swim. And we may agree that the "presumption," or hypothesis, that Mr. Smith drowned is, in view of the evidence, quite acceptable.

Now, the first thing to note about the argument—and this is to be noted about all hypothesis-arguments—is that, however convincing it may be, it could always be made even *more* convincing. That is, we can think of various *other* statements that, if known to be true, would make the hypothesis more acceptable. For example, if Mr. Smith's body should be washed up on the shore,

that would be further evidence in favor of the hypothesis. It would not make the hypothesis *certain,* for Mr. Smith could have died by poison or in a heart attack, but it would make the hypothesis stronger and more believable than it is in view of the known facts.

The second thing to note is that we can also think of still *other* statements that, if known to be true, would make the hypothesis *less* convincing. That is, we can imagine discoveries that would weaken our confidence in the hypothesis, or make us reject it altogether. For example, suppose Mr. Smith turns up alive, with a story of having been rescued by a passing launch. If this should happen, we should have a new fact that is *incompatible* with the previous conclusion, and we should have to say that the "presumption" that he had drowned was a mistake. So with every hypothesis: no matter how convincing it may be, it is conceivable that a discovery made tomorrow or the next day will cripple or destroy it. Thus a hypothesis always wears a tentative, provisional air, so to speak: we accept it, and we act upon it, only until a better one comes along.

Nevertheless, it is also true that a hypothesis may be so convincing that we do not expect a better one to come along. And so we speak of "proving" a hypothesis (for example, we speak of "proving" the guilt of a defendant). If we use this term in the strictest sense, there can be no "proof" of a hypothesis, but, in a wider sense, we speak of a hypothesis as "proved" when we have such strong evidence for it that we no longer fear (or hope for) any further evidence that would be incompatible with it. The practical question in dealing with hypotheses is, of course: At what point are we justified in regarding them as "proved"?

It would be handy if a simple and universal reply could be given to this question. But there are many reasons why this cannot be done. Even if we had more room than we have here for discussing hypotheses, we should not be able to lay down any precise rules for appraising them. In this section, we shall confine ourselves to one important principle that helps us to make a rough estimate of the dependability of a hypothesis.

We have already pointed out that, generally speaking, a fact or a collection of facts can be accounted for by more than one hypothesis. The facts in the case of the overturned boat, for example, can

be accounted for by the hypothesis (A) that Mr. Smith drowned, or (B) that Mr. Smith fell into the water and was rescued. Whenever we accept a hypothesis as true, therefore, we are always, in effect, *preferring* it to various more or less explicit *alternative* hypotheses which may account for the same facts better or worse. We never can find the *one and only* hypothesis; we must always, if we want to be reasonable, choose the *best* of several hypotheses. And this brings us to the very center of our problem: How do we tell when one hypothesis is better than another? What makes it better?

This is an extremely complicated question. Any brief answer, such as we must give here, will lead us to make mistakes if it is applied too narrowly. But we can note at least one feature of hypotheses that should aways be considered when we are comparing alternative hypotheses to decide which is the more convincing. This is the **simplicity** of the hypothesis. Other things being equal (and, as usual, this qualification covers a number of delicate considerations that we are ignoring), the *simpler* of two alternative hypotheses is the preferable one.

Consider once more the case of the overturned boat. We are comparing the two hypotheses A (that Mr. Smith drowned) and B (that he was rescued), in the light of the evidence at hand, and we now ask which of these hypotheses, *in view of that evidence alone,* is the simpler one. We cannot give a precise definition of "simplicity," but in the present case the answer is not very hard. When we suppose that Hypothesis A is true, we picture a certain chain of events: perhaps a wave striking the boat, Mr. Smith falling out, Mr. Smith struggling in the water and finally sinking. When we suppose that Hypothesis B is true, we picture *another* chain of events: the wave striking, Mr. Smith falling out and struggling and calling, another boat passing nearby and coming to the rescue. Moreover, we must invent still another chain of events to explain why this boat did not immediately put in to shore and notify the authorities—that is, we must explain how Mr. Smith can be alive and well, though nothing has been heard of him for fourteen hours after the rescue. By the time we get through building Hypothesis B so that it will really explain the facts, we shall have a pretty elaborate theory.

To describe the difference between Hypothesis A and Hypothesis B more abstractly, we may observe two points: (1) Hypothesis B requires us to suppose a longer chain of events than does Hypothesis A, and (2) Hypothesis B requires us to suppose the presence on the scene of more people than does Hypothesis A. That is why we say that Hypothesis A is *simpler* than Hypothesis B, and, since both account for the same known facts, it is more reasonable to believe Hypothesis A than to believe Hypothesis B. Of course, a single new discovery may upset the applecart and reverse the situation. But, with the given facts, it would be absurd to believe the more complicated hypothesis when the simpler one will do. This does not imply, of course, that we can be *certain* that Hypothesis A is true. All we can be sure of is that, as an explanation of the known facts, it is better than Hypothesis B, and therefore should be preferred to it.

The principle of simplicity is by no means enough to enable us to make the right judgment in all cases, but it is always an important consideration in appraising a hypothesis. If we keep it in mind, we shall avoid some of the worst errors of reasoning that are made in inductive arguments for hypotheses. The **fallacy of unnecessary complexity** is the fallacy of inductive reasoning which consists in seizing upon one hypothesis when a simpler one would do the same job of explanation. We are often tempted to make our hypotheses more elaborate than they need to be, because the more complicated hypothesis may make a better story: it may be more dramatic and entertaining. But that is not enough to make it *reasonable*.

Now, then, when you are presented with an inductive argument of the sort we are considering here—a set of facts alleged to prove a certain hypothesis—what can you do? There are two steps in the appraisal. The *first* step is to sort out clearly in your mind the elements of the argument. Be sure you know clearly what the hypothesis is, and what evidence is being offered for it. And, incidentally, make sure that there really are true generalizations to connect the evidence with the hypothesis. Suppose a man argues that Mr. X is untrustworthy "because his first name begins with an 'H.'" Obviously, we don't know any generalization that makes this "reason" relevant. But if a man argues that X stole some-

thing "because he was at the scene of the burglary," this reason, although it doesn't *prove* X's guilt, it is at least *relevant* to it, for it is a true generalization that to commit a burglary one has to be present.

The *second* step, then, is to ask this key question:

> *Does the hypothesis account for the given facts more simply than any alternative hypothesis you can think of?*

When you read a thoughtful article in a magazine, or a book on a much-debated historical question, you may find that the writer himself lists a number of alternative hypotheses that have been offered on the question at issue. And he may proceed to show that only one of them really explains the facts, or, if more than one explain the facts, that one of them gives the simplest explanation. But most of the arguments you are confronted with in the popular press are not so judicious; usually, only one hypothesis is put forth, and that is the one you are asked to accept. It is a good rule of caution, however, not to accept any hypothesis until you have stopped to think of at least one alternative hypothesis to compare with it. Perhaps the hypothesis presented is, indeed, the simplest one available. On the other hand, perhaps you can think of a simpler one yourself; if so, you can't regard the presented argument as very convincing.

A CHECK-UP QUIZ. Here are five sets of facts with alternative hypotheses to explain them. In each case check the simpler hypothesis.

1. *Evidence:* Johnny, aged 7, has been doing poorly at school.
   Hypothesis A: His eyes need attention.
   Hypothesis B: He has been secretly stealing aspirin from the bathroom and eating it before school.
2. *Evidence:* Mrs. X did not receive a Christmas card from her old school friend, Mrs. Y, this year.
   Hypothesis A: Mrs. Y is being held without bail on a charge of first-degree murder and is too distracted to send Christmas cards.
   Hypothesis B: Mrs. Y forgot to send a card.

3. *Evidence:* This light doesn't go on, but the bulb is all right.
   Hypothesis A: Two of the workmen at the power plant got into an argument and accidentally threw a switch that cut off the electric power from this neighborhood.
   Hypothesis B: The plug is loose in the wall-outlet.
4. *Evidence:* Three people assert that they saw Mr. X fire a gun at Mr. Y at 1:00 A. M. in the garden behind Shilly's roadhouse. Mr. X claims that he went home at twelve, but none of the employees recalls seeing him leave or seeing him present after twelve.
   Hypothesis A: Mr. X fired the gun at Mr. Y.
   Hypothesis B: Mr. X was home in bed, but the three witnesses invented the story in order to give Mr. X some bad publicity to lessen his chances of winning a forthcoming election against Mr. Y.
5. *Evidence:* Three people assert that they saw Mr. X fire a gun at Mr. Y at 1:00 A. M. in the garden behind Shilly's roadhouse. Mr. X claims that he went home at twelve, but none of the employees recalls either seeing him leave or seeing him present after twelve. The night was very dark. The three witnesses are well-known gamblers from out of town who are contributing to Mr. Y's campaign because Mr. Y is strongly in favor of legalizing gambling in his state. A policeman says he saw Mr. X entering his apartment in town at ten minutes to 1:00.
   Hypothesis A: Mr. X fired the gun at Mr. Y.
   Hypothesis B: Mr. X was home in bed, but the three witnesses invented the story in order to give Mr. X some bad publicity to lessen his chances of winning the forthcoming election against Mr. Y.

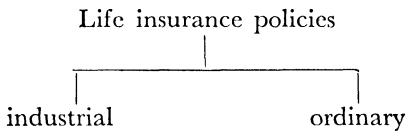
RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic.* New York: Prentice-Hall, Inc., 1950, ch. 15.

§39. CLASSIFICATION

Along with the process of *discovery,* which yields more and more dependable generalizations and hypotheses, goes the process of *organizing* our knowledge. Half the fun—and half the usefulness, too—of acquiring new knowledge lies in getting it into order with

what we have already learned. One method of doing this is provided by deductive logic. By recognizing *implications* between one statement and another, we systematize our information in a rational way, so that it becomes not merely a collection of facts, but a *science* or field of knowledge. There is another method of introducing order into our knowledge; we must say something about it while we are speaking of induction.

We organize what we know about the world by sorting out the things that we are interested in: that is, by thinking of them as belonging to different *classes* of things. We do this by noting differences—between reds and blues, between men and women, between wood and metal, between mushrooms and toadstools—and marking these differences by different names. When we assign different names to different members of a collection of things, to draw attention to a distinction among them, we are *dividing* a class into its subclasses. For example:



By such a diagram we indicate that we wish to consider the whole class of life insurance policies as divisible into two subclasses, "industrial" policies and "ordinary" policies.

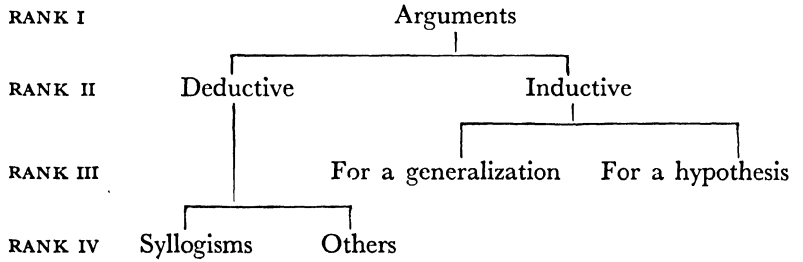
The first thing to note about this diagram is that to make the division we must select a characteristic that some life insurance policies have and some do not. In this example, the characteristic is *face value*. Following a common procedure of life insurance companies, we have considered all life insurance policies in terms of their face value, and we have drawn a line to separate two subclasses: (*a*) those whose face-value is less than $1000 ("industrial"), (*b*) those whose face-value is $1000 or over ("ordinary"). The characteristic we have selected is called the **"basis of division."**

When we apply a basis of division to a class of things and break it down into two or more subclasses, the subclasses are *parts* of the whole class above them. Each subclass is said to be **"subordinate**

to" (of a lower order than) the class of which it is a subclass; and each class is "co-ordinate to" the other subclasses of the same class. Here we are only furnishing technical terms for what our diagram shows at a glance. For in the diagram, there are two levels, or **ranks**, and they are arranged so that (*a*) the classes in one rank are subordinate to those in the rank above it, and (*b*) the classes in the same rank are co-ordinate to each other. In our simple example, the class of life insurance policies is not shown to be co-ordinate with any other classes, but we could easily extend the diagram to show the relationship between life insurance and other kinds of insurance.

In this way we can make a whole *series* of divisions, through any number of ranks, by starting with a very general class (say, of cars), and then applying, in a certain order, various bases of division. Thus we might first divide cars according to their *make,* and we might divide each make according to *color,* and we might divide each color according to *weight, length of wheelbase,* or *mileage per gallon,* or any other characteristic that interests us. Some of them (for example, *age*) would be important for certain purposes (say, in calculating the premium for collision insurance); others (for example, *the number of miles the car has gone on New Jersey rural highways*) would be so out of the way that it is hard to think of any reason for paying attention to them.

The result of carrying out such a series of divisions is a **classification.** A classification shows the logical relationships among a number of classes, and it marks those differences and likenesses of things that are thought to be noteworthy. Consider, for example, the partial classification of arguments that we have given in this and the preceding chapter.



This classification, incomplete though it is, contains four ranks. Rank I is the highest, or most general, rank. In Rank II arguments are divided according to whether or not they make a claim that their conclusions follow necessarily from their reasons. In Rank III, the basis of division is *type of conclusion.* But note that this division can be made only for inductive arguments, whereas in Rank IV the basis of division, which is *logical form,* can be applied only to deductive arguments. The diagram makes these relationships plain.

When you make a classification, there are several pitfalls to avoid. But the most important rules to keep in mind can be reduced to two: a rule about the *basis of division,* and a rule about *significance.*

The first rule is simple but extremely important: In each rank of a classification, the division must be made in terms of a single basis of division. Recall our example of the life insurance policies. Suppose someone were to say, "Insurance policies may be divided into several classes: fire, collision, accident, industrial, liability, group, marine, life, and theft." To make all these diverse classes co-ordinate is to create a hopeless logical jumble. They cannot be co-ordinate, because they are formed on several bases of division. Thus the difference between liability insurance, on the one hand, and life insurance or fire insurance, on the other, is that the former insures you against the results of injuring someone else or his property, whereas the latter insures you against damage to your own person or property. Again, the basis of division into life insurance and collision insurance, to take another example, is *type of thing insured* (whether it is a person or a car).

If a particular rank in a classification contains more than one basis of division (for example, if pickles are divided into sour pickles and small pickles), it commits the **fallacy of cross-ranking.** Such a classification is pretty sure to be unsatisfactory—it leads easily to confusion of thought—because the co-ordinate classes will probably become entangled with each other. They may *overlap,* and they may be *incomplete.* In either case, the classification will introduce disorder where it should introduce order.

The second rule is not very exact, but its application can be made fairly clear by examples: a classification should be as significant as possible. Roughly speaking, the significance of a classification depends upon the importance of the distinctions it makes, and

of course importance is generally relative to a particular purpose. For the purpose of staying alive, the distinction between mushrooms and toadstools is very important. Or take our division of life insurance into industrial and ordinary life. This distinction is important for some life insurance companies, but most life insurance companies don't sell industrial life policies. If we were writing a treatise on life insurance in general, we should have to choose a more fundamental classification. For example, we should divide life insurance into four basic classes: (1) term, (2) whole life, (3) limited payment life, and (4) endowment. To make these divisions we should use two bases of division: *length of time of premium payments* and *point at which proceeds are paid.* So our classification would have two ranks.

The significance of a classification depends upon the purpose for which it is made. But once we are clear about the purpose, we still have to find the most significant classification *for that purpose.* And this depends upon the number of generalizations we already know about the things to be classified. For example, suppose a sociologist is dividing American citizens into various subclasses. He can think of all sorts of possible bases of division: sex, income, color of hair, height, weight, religion, political affiliation, waistline, place of residence, favorite color, size of thumb, average number of words uttered per week, date of first arrival of an ancestor in the Western hemisphere, occupation of maternal grandfather—he could go on indefinitely.

Now, obviously income is a more significant basis of division for the sociologist than color of hair or size of thumb. That is to say, he knows more generalizations about the relationship between a person's income and his other characteristics (his tastes, his type of job, his interests, his education) than about the relationship between a person's hair color and his other characteristics. In fact, there are *no* reliable generalizations to the effect that people with red hair tend to behave in certain special ways; but there are some fairly reliable generalizations to the effect that people who belong to certain income-groups tend to behave (though they don't *all* behave) in certain ways. So income is a more significant basis of division than hair color.

It is evident that we are omitting a large number of qualifica-

tions here. But the main point is quite definite. The more we know about the things we are classifying (that is, the more generalizations and hypotheses we have reason for believing), the more we know *which* things belong together. We learn to class flowers together according to their mode of reproduction rather than according to their color: we discover that the latter basis of division is more superficial than the former. So our classifications grow and improve with our information; and, if we are willing to change them as we learn, they reflect at every stage the progress of our knowledge. In this way, they become instruments, as well as mementoes, of discovery, for the most significant classification of a subject is the one that puts us in the best position to explore it further.

A CHECK-UP QUIZ. Check the divisions that commit the fallacy of *cross-ranking*.

1. shoes *into* leather shoes, wooden shoes, cloth shoes, paper shoes, metal shoes.
2. pies *into* mince pies, apple pies, one-crust pies, lemon meringue pies.
3. logical relationships *into* equivalence, incompatibility, independence.
4. definitions *into* literal definitions, metaphorical definitions, formal definitions, impromptu definitions, circular definitions.
5. arts *into* painting, drawing, sculpture, music, poetry, drama, the novel, ballet, architecture.

RECOMMENDED FOR FURTHER READING: M. C. Beardsley, *Practical Logic*. New York: Prentice-Hall, Inc., 1950, ch. 12, §§56–57.

§40. THE PROBLEM OF OUTLINING

Whenever you set out to arrange material for a written essay of any kind, you have to form a *plan of organization*. In the present context, the term "essay" will be used in a broad sense: it includes, for example, an explanation of a new technique in industrial relations that has been tried out in your business, or a report to a

civilian committee on conditions in some local grammar schools. We shall assume, for the time being, that you have already in mind the thesis, or topic, of the essay, and that you have all, or most, of the material you want to put into it (though you may find when you start to write that you need more). You have come back from the library, then, with a number of notes, or you have gathered a number of facts and figures from first-hand investigation. Still, these are more or less disconnected jottings—not yet a plan. Your next job is to make an outline.

An outline is a classification. More specifically, it is a classification of statements. And, like any classification, an outline ought to proceed in each rank according to a single clear basis of division. If it does not, its headings will probably not be inclusive enough to hold all the things you want to say, and they will probably not be exclusive of one another, so that you will have two pigeonholes for some of your ideas.

If your outline has too many gaps in it—if it doesn't cover the ground marked out by your topic—some of your thoughts will be left dangling when you start to write. To get them in, you will be tempted to tack on, as an after-thought, an extra section like "Prefatory Remarks," or "Conclusion," or "Introduction," to be a catch-all for what is left over. Such sections have their place: a "Preface" contains statements *about* the essay that don't properly belong *within* it; an "Introduction" may provide help to a reader who is wholly unfamiliar with the subject, or it may summarize the general features of the essay as a whole. But it is a good rule to work everything you can into the body of the essay itself; if you have an idea that you *can't* fit in, the chances are that it doesn't belong in that essay at all.

If your outline contains overlapping headings, you are very likely to repeat yourself. Suppose you are writing on the twentieth-century American novel. You start with these main headings:

I. The Realistic School
II. Romantic Novels
III. The Southern Regionalist Movement

You will find that some novels will belong in both I and III; if you are to avoid redundancy, you need a new outline.

An outline subordinates one topic to another, and it co-ordinates one topic with another by subordinating them both to the same topic. Thus it reminds the writer, as he works, of what he is making more important and what he is making less important. In choosing the basis of division at each rank, then, you are deciding which distinctions you want to emphasize most. Suppose, in making an outline on proportional representation, you start out with:

I. History of the use of proportional representation as a democratic technique.

II. Present-day uses of this technique.

By choosing these as your main headings, you inevitably emphasize the distinction between *past* and *present*. This emphasis may be what you want, if past uses of proportional representation are quite different from present uses. But if this is actually not an important difference, then the emphasis is *over*emphasis.

In some cases, you may be able to construct two outlines of your essay, both of which satisfy the minimum requirements we have discussed above. How do you decide which outline to use? Each case is a special problem, of course, but there are certain general principles that are worth keeping in mind.

Suppose you are reporting on a book about the United Nations and you intend to summarize the *author's* criticisms of the United Nations and to give your *own* criticisms of the author. Suppose, moreover, that the book is already divided into a discussion of the Security Council and a discussion of the General Assembly. Two possible outlines suggest themselves at once:

Outline A

I. Statement of the author's views
   A. Of the Security Council
   B. Of the General Assembly

II. Criticism of the author's views
   A. Of the Security Council
   B. Of the General Assembly

Outline B

I. The United Nations Security Council
   A. The author's views
   B. Criticisms of the author's views
II. The United Nations General Assembly
   A. The author's views
   B. Criticism of the author's views

Considered merely as classifications, these are very similar, for they provide exactly the same pigeonholes for sorting the material. But considered as plans for writing, they are by no means the same. If your criticisms of the author's views of the Security Council are quite different from your criticisms of his views of the General Assembly, that will be a good reason for choosing Outline B. If your criticisms of the two are not very different, then you should choose Outline A, for you may be able to telescope IIA and IIB, to some extent, without confusion, and thus save words.

But there is another point to remember. An outline gives you all the topics at a glance, but when you start writing, you have to set forth your ideas in a *sequence*. That calls for thinking out which statements will be clearer if they come *after* other statements. If your criticisms of the author's views of the Security Council assume that the reader already knows the author's views of the General Assembly, then you should avoid Outline B. For Outline B will involve you in cross references ("this point will be explained later on") or parenthetical remarks ("as the reader will see later, the author believes . . . ."), and these devices always tend to confuse and discourage a reader. Of course, these devices cannot always be avoided, but wherever logical clarity is at stake, it is safe to say that the fewer of them, the better. One test of a good outline is that it makes them completely, or almost completely, unnecessary.

Occasionally it is hard to think of a good basis for choosing the main headings of an outline. You may solve this problem by keeping in mind certain standard distinctions that are often used for sorting out ideas. For example, when you are writing about a historical movement, or a social institution, it will very often be convenient to start with some such chronological division as this:

I. History
   A. Origin
   B. Development
II. Present workings
III. Future prospects

When you are trying to explain a machine, an industrial technique, or the organization of a social institution, you might try this plan:

I. Structure (how it is set up)
   A. Material (what it is composed of)
   B. Organization (how the material is put together)
II. Function (how it works)
   A. Description (what it does)
   B. Evaluation (what it's good for; what's wrong with it)

These distinctions are fundamental ones in almost all departments of thinking, and so are certain others; the distinction between *means* and *ends,* between *causes* and *effects,* between *diagnosis* and *prescription,* between *pro* and *con.* Whether you are describing a radarscope, discussing subsidized football, or arguing for the reorganization of a sales department, you may find one of these distinctions a helpful way to start arranging your thoughts.

An outline can be carried out to any degree of elaboration, from I and II to A and B; and under A and B, from 1 and 2 to *a* and *b,* down to (1) and (2), and (a) and (b) and (i) and (ii), and further, if you wish. How far should an outline go? That question depends on this one: What distinctions do you regard as important enough to be emphasized at all? In general, an outline should be carried out far enough so that each paragraph of the essay will cover a particular subdivision of the outline. At least, if you do this, you will know why you start each new paragraph, and why you end it, where you do. Beyond this point, however, the distinctions, although they will be there in your essay, may not need to be thought out beforehand.

Nevertheless, it would be a mistake to think that you cease to classify when you have finished your over-all plan. The process of

ordering (co-ordinating and subordinating) your thoughts, and hence your statements, goes on all the time you are writing, down to the smallest parts of the essay. An outline gives you a general bearing; it helps you fix in mind the general structure of your exposition or argument. The larger sections of your essay—the chapters and paragraphs—carry out the plan. But even on a more detailed level, when you work out individual sentences, you are still classifying; only, on this level, it is syntax—the way you construct your sentences and arrange the words in them—that has the function of making clear the co-ordination and subordination of ideas. And certain fundamental and common faults of sentence-construction are, at bottom, illogical classifications.

This observation opens up several lines of thought that we cannot consider very thoroughly here. For our present purpose, it will be sufficient to show that there is an intimate connection between syntax and classification. When you write a compound or complex sentence, you are nearly always (whether you are fully aware of it or not) saying something about the importance of the statements within the sentence. Compare these sentences:

(1) *Although* he was willing to perjure himself in a good cause, he generally gave honest evidence.
(2) *Although* he generally gave honest evidence, he was willing to perjure himself in a good cause.
(3) He was willing to perjure himself in a good cause, *but* he generally gave honest evidence.

Ignoring some of the subtleties in these examples, we may say, at least, that this much is clear: in the first sentence, the perjury is subordinated to the honest evidence; in the second sentence, the honest evidence is subordinated to the perjury; in the third sentence, the perjury and the honest evidence are given roughly co-ordinate positions.

Considering sentence-construction in terms of classification, then, the problem of organizing a sentence is, at least in part, a problem of making the resources of grammar keep the categories of thinking clear. Parallel constructions call attention to co-ordinate ideas; nonparallel constructions subordinate one idea to another. A writer

is working at cross-purposes with himself, and he is inviting confusion, when his syntax cuts across the logical relationships of his thoughts. There are two opposite mistakes to be distinguished.

(1) Nonparallel syntax may obscure the co-ordination of ideas:

> We found that there are not enough classrooms for pupils in the primary schools, in which there is a shortage of teachers.

If this sentence is understood as part of a report about school conditions, it is confusing. The syntax subordinates the shortage of teachers to the shortage of classrooms, though the shortage of teachers would seem to be at least of equal importance (in the context). It would be clearer to write, ". . . . there are not enough classrooms . . . and not enough teachers."

(2) Parallel syntax may obscure the subordination of ideas:

> We found that textbooks were generally out-of-date, and that in one school pupils were using a history book which had not been revised since 1908.

The two subordinate clauses are set side by side as objects of "found." Yet they are not of equal rank, for the statement that the books were out-of-date is a general conclusion about the school system as a whole, but the second statement is about a particular school. The second statement *illustrates* the first statement. The following sentences are more logical:

> We found that textbooks were generally out-of-date and that laboratory equipment was generally inadequate.

> We found that in one school pupils were using a history book which had not been revised since 1908, and that in another school the physics students had no materials for laboratory work.

A good deal more can be said, and is said in books on grammar and rhetoric, about the grammatical problems we have raised. Those books will show you how to handle most of the particular difficulties in sentence construction. But some of the difficulties will never arise if you are clear about the exact relationships between your statements. And that is a matter of logic.

Outline-Summary of Chapter 8

An inductive argument presents evidence for its conclusion, not claiming that the conclusion follows necessarily from the evidence, but only that in view of the evidence the conclusion is a reasonable basis of belief and action. There are two kinds of inductive conclusion:

1. *Generalizations* (for example, "Falling cats always land on their feet"). The evidence for a generalization consists of facts that are *instances* of the generalization (for example, "The falling cat I saw yesterday landed on his feet"). The generalization attributes a characteristic to a certain proportion ("many," "1 per cent," "100 per cent") of a *class under investigation* (the class of falling cats), and the instances constitute a *sample* of the class under investigation. The reliability of a generalization depends on whether the sample on which it is based is typical of the class under investigation.
2. *Hypotheses* (for example, "The baby is hungry for his bottle"). The evidence for a hypothesis consists of facts that can be *accounted for,* or explained, by the hypothesis, assuming certain generalizations (for example, the fact that the baby is crying can be accounted for by the hypothesis that the baby is hungry for his bottle, the relevant generalization being: "Whenever this baby is hungry for his bottle, he cries"). The hypothesis is not *deduced* from the facts plus the generalizations; its reliability depends on whether it accounts for the relevant facts better than any alternative hypothesis (for example, that the baby has a pin sticking in him). Other things being equal, one hypothesis is better than another if it has greater *simplicity.*

A *classification* exhibits the logical relationships among a number of classes, in particular (*a*) that one class is *subordinate to,* that is, a subclass of, another (as *pears* are a subclass of *fruit*), and (*b*) that two classes are *co-ordinate* (as the class of *pears* and the class of *mangoes* are co-ordinate subclasses of *fruit*).

On the negative side, a classification must proceed in each of its ranks, or levels, according to a single *basis of division* (apples must not be divided into Macintosh apples, Baldwin apples, sweet apples, green apples, and apples grown in Michigan).

On the positive side the usefulness of a classification increases with its *significance*, which depends on whether it places together (in the

same class) those things that, by means of previous inductions, we know have many characteristics in common.

These two considerations also apply to any *outline,* for an outline is a classification of statements that are to be asserted.

Exercise 37

Discuss the reliability of the following generalizations. In each case begin by distinguishing clearly the sample class from the class under investigation; then examine the sample carefully and say why you think it is, or is not, likely to be typical.

1. A man who wanted to find out the average length of paragraphs in the *Reader's Digest,* without counting the number of words in every paragraph of a particular issue, decided to follow this procedure; he counted the words in the first paragraph and the last paragraph of every article, and in one picked at random from near the middle of each article.
2. To find out which of two newspapers was most given to "editorializing" in its news columns, a student read both newspapers carefully for the whole month of October 1948. He examined only the first pages, counted the number of news stories, and marked down every word that slanted the story in one direction or another. He found that newspaper A, which listed itself as "Republican," contained about twice as much editorializing as newspaper B, which listed itself as "Independent," and he concluded that, during 1948, the first paper was much less objective than the second.
3. A careful reader of *The New York Times* Book Review Section came to the conclusion that three-quarters of all famous poets have led immoral lives. He read reviews of all the biographies which appeared in 1947 and were reviewed in the *Times;* and on the basis of the reviews, he discovered that two-thirds of the biographies of poets stressed, to some extent, the immorality of the poet's private life.
4. To get public opinion on a proposed increase in tax exemption for children, interviewers were sent with questionnaires, from door to door. Certain neighborhoods were selected, each having a different degree of prosperity, and the interviewers went to every home in each neighborhood. When no one answered the doorbell, the name was crossed off the list. The interviewers went out at nine in the morning, and returned at noon, Monday through

Saturday, during the first three weeks in January. The results showed overwhelming support of the proposed increase.

5. A college newspaper that was conducting a campaign to persuade the faculty to give shorter assignments wanted to discover student opinion on this point. Ballots were printed in the newspaper, and students were asked to bring them to the newspaper office, which was in the basement of an astronomical observatory in a far corner of the campus. About one-fourth of the students replied, and it was found that, of these, almost four-fifths said that they were in favor of shorter assignments because they were having great difficulty in keeping up with their classwork and were consequently failing in one or more subjects.

Exercise 38

Discuss the acceptability of three of the following hypotheses. In each case distinguish the hypothesis from the evidence for it, then explain why you think the hypothesis is simpler, or less simple, than some alternative hypothesis that would account for the same relevant facts.

1. *Excerpt from the trial of the Knave of Hearts, in* Alice's Adventures in Wonderland:

"There's more evidence to come yet, please your Majesty," said the White Rabbit . . . : "This paper has just been picked up . . . I haven't opened it yet, . . . but it seems to be a letter, written by the prisoner to—to somebody."

. . . "Who is it directed to?" said one of the jurymen.

"It isn't directed at all," said the White Rabbit: "in fact, there's nothing written on the *outside*." He unfolded the paper as he spoke, and added, "It isn't a letter, after all: it's a set of verses."

"Are they in the prisoner's handwriting?" asked another of the jurymen.

"No, they're not," said the White Rabbit, "and that's the queerest thing about it." . . .

"He must have imitated somebody else's hand," said the King. . . .

"Please, your Majesty," said the Knave, "I didn't write it, and they can't prove that I did: there's no name signed at the end."

"If you didn't sign it," said the King, "that only makes matters worse. You *must* have meant some mischief, or else you'd have signed your name like an honest man." . . .

"That *proves* his guilt, of course," said the Queen: "so, off with . . ."

2. You can say what you like about "primitive superstitions." I know better. I've seen magic kill! Some years ago, when I was knocking around in the West Indies, I got a whiff of Voo-doo. There was the poor fellow who was doomed to die: he stood off at the edge of the clearing, staring at the Voo-doo doctor, or whatever they call it. The latter made a little doll of clay, put his finger on its heart, and muttered the fatal words.

   The victim ran away in terror, but he didn't get far. A doctor, a friend of mine who was there, performed an autopsy. The man's heart was weak, but, as the doctor admitted, people can live for years with weak hearts. I've heard other stories too—but that was enough to convince me. Those Voo-doo people have a mysterious power to kill, unknown to Western science.

3. How did the fire start? The kerosene-soaked rags that somehow escaped burning, in one corner of the cellar, *might* have been left there by a careless janitor. The papers and boxes that seem to have been piled up where the fire started *might* have been put there for the trash-collector. The tarnished and blackened cigarette-lighter that could have fallen out of someone's pocket as he climbed out of the cellar window *might* belong to a tramp. And the man seen running away from the building just before the alarm went out *might* just have been late for an appointment. But when you add all these together, it certainly looks like arson.

4. Though grain crops are hitting new highs, and the price rise seems to be flattening off, no one is predicting a real letup in prices for a long time to come. It is a significant fact, as this month's issue of *Consumer's Reports* points out, that in August, 1948, dairy farmers in the New York area produced more milk than in August, 1947; that consumers drank *less* milk, but the price of milk was 3.5 cents *higher*.

   It is difficult to explain this by the mere operation of supply and demand. Perhaps other areas are drinking more milk, and the New York producers have been persuaded to send a certain amount out of the state. That seems to be the most reasonable explanation.

Exercise 39

Here are twenty statements about Walt Disney's animated cartoons. Assume that you are to write an essay that will contain these

statements. Make an *outline* of the essay, indicating where each statement is to go. (Don't write out the statements, but refer to them by number.)

1. In the animated cartoon, pictures are projected on the screen at the rate of 24 per second.
2. Mickey Mouse always stands for the forces of good overcoming the forces of evil, as represented by such villains as Pete the cat.
3. Such pictures as *Snow White* and *Fantasia* are considered by many to be successful examples of a new form of art, the animated talking picture, because these pictures sometimes achieve a beautiful pictorial design.
4. When Donald Duck is angry, or sulking, his head-feathers are ruffled, and his bill wrinkles—and these characteristics have to be carefully worked out by the animators and then consistently adhered to in every Donald Duck picture.
5. The Disney studio was founded in 1923.
6. The humor of the animated cartoon is admittedly on a very childish level, which is perhaps why it is so popular with so many people.
7. In order to make an animated cartoon, the animators have to make a distinct drawing for every separate picture (or "frame") that is flashed on the screen whenever something appears to be moving.
8. The first Mickey Mouse cartoon, *Plane Crazy,* appeared in 1928.
9. It took over two million drawings to make *Snow White.*
10. The relative sizes of the different characters in an animated cartoon have to be exactly planned and then consistently adhered to in the drawings.
11. Tens of millions of people remember Disney's cartoons with a deep affection, like that which they have for their childhood memories of fairy tales.
12. Disney's first sound cartoon was *Steamboat Willie,* 1928, starring Mickey Mouse.
13. Animated cartoons are genuine art, as well as entertainment, for they are full of drama and rich in imaginative quality.
14. On the 35-millimeter film used by the Disney Studios, there are 16 separate pictures, or "frames," per foot.
15. By gently exaggerating the human characteristics of his characters,

Disney comments sympathetically but ironically upon the foibles of the human race.

16. Though Disney has had many imitators, and some of them have done good work, he is generally considered to stand today as the supreme creator in his field.
17. Some critics have regarded animated cartoons as detrimental to children, on the ground that their fantastic world of violence, constant insecurity (things are always breaking, and people are always falling through space), noise, and cruelty, is often frightening to children.
18. In the process of making a cartoon, the action, color, dialogue, beats of music, and sound-effects, have to be synchronized down to one twenty-fourth of a second.
19. Pluto the Pup and Donald Duck are friends of Mickey's who represent some of the most engaging weaknesses and eccentricities of mankind: Pluto is the dumb, devoted pal; Donald is the self-confident, assertive wise guy who is too smart for his own good.
20. *The Three Little Pigs,* probably the most popular of Disney's *Silly Symphonies,* appeared, in color, in 1933, and was heard round the world.

Exercise 40

In each of the following passages the co-ordination and subordination of ideas is obscured, either by the grammatical construction or by the order of the sentences. Think out carefully the relationships between the statements in each passage and then rewrite each passage so that it makes those relationships clear.

1. The lecturer explained the desirability of supporting native democratic movements in the East Indies, and his troubles with Colonial administrators.
2. There were no objections to the Chairman's proposals for a further inquiry or to what he had said in an interview with the press.
3. For some years they lived in Pittsburgh, whence they moved to Springfield, where they remained for a time before transferring their place of residence to Morton.
4. It was agreed that a modern newspaper has many functions: it should inform the public truthfully about what is going on, make a reasonable profit for its owners, and work vigorously for the correction of abuses.

5. There is something to be said in favor of placing atomic energy under military control, against which, however, there are also several arguments.
6. While some agreements were reached at the Conference, many issues had to be tabled because of irreconcilable differences of policy. Most commentators have regarded the conference as a failure, though surely the outstanding fact is that the Foreign Ministers found some areas of common accord.
7. There are three main causes of attic fires: spontaneous combustion started by the sun shining on oily rags; too many old cartons lying around, and also leaving matches in old clothes or boxes, so that they are lighted accidentally by mice or rats.
8. The fallacy of capital punishment lies in its implicit assumption, which is unverified, that killing murderers actually discourages murder. Capital punishment takes it for granted that there is a sharp difference between the "sane" and the "insane," which is just as false as another assumption, namely, that it is possible for human beings to prove a murderer's guilt with certainty. When we make a mistake in executing an innocent man, we can never correct that mistake.
9. Here are the four fundamental factors in a happy marriage, according to a recent survey: first, compatibility of interests between husband and wife; second, each partner being willing to let the other be a person in his own right; third, neither one should be trying to "make over" the other to his or her own pattern; and fourth, they should both encourage each other to develop their own innate capacities by doing what they like to do and can do well.
10. Those who are calling for a new state-wide sales tax have surely not considered the injustice of sales taxes. It is important to realize that a sales tax discourages buying and is therefore unfair to retail businessmen, who also have to collect the sales tax for the state, even though that takes time and money. The sales tax is indeed very unfair to consumers: as everyone knows, it distributes its benefits very unequally. And furthermore, the burden of paying the tax falls most heavily on those who can least afford it, that is, the lower-income groups.

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REVIEW TEST

HERE IS A FINAL EXERCISE that brings together many of the principles that we have been discussing separately. It is a relatively simple problem in reading, and if you analyze it methodically you can make a reasonably good judgment of what the passage is worth as an argument. Since the issue is highly controversial, you may have to make an effort to set aside, temporarily, your own convictions on the subject; your first task is to understand what the writer is saying and then to decide whether he supports his statements with sound reasoning. Read the passage through carefully, twice (the lines are numbered for easy reference), and answer the questions below.

No doubt they are ringing bells in the Kremlin tonight. The Academic Senate of one of our greatest state universities has voted unanimously not to take the teacher's oath which the Board of Regents rightly asked all members of the faculty to sign. As usual, the cranks, mush-headed idealists of our pinko press, are trying to swindle the American people into thinking that this act of near-treason is a great victory for liberalism. But don't be fooled. The plain truth is that the faculty of a famous university has solemnly declared that it will do nothing to defend our educational system from the greatest danger that has ever threatened it.

In doing this deed, and apparently without shame, these ivory-tower academicians have done a great wrong to their country. They have shown the world that we are divided and faltering in our opposition to Communism—just when all our energies should be put into a united front against the cold-war enemy. And they have made a sit-down strike against the American people. After all, a teacher is an employee of the people, and if he refuses to do his job, but won't resign from it, that is what we call a sit-down strike. It isn't as though these professors had a *right* to refuse the oath. They have no right to oppose the will of the people, and therefore they have no right to disobey the Board of Regents.

If these professors had taken the oath without question—instead of quibbling about what it means or doesn't mean—they could have shown the world that they stand committed to a firm and unflinching defense of 100% Americanism. Their cowardice—their petty fears about what they call "academic freedom" (obviously a mere smoke-screen for gross irresponsibility)—will be a severe setback to our reputation abroad. What gives the show away is a statement, quoted in various newspapers, by one of the hold-outs: "We are afraid of the precedent that will be set if this oath is required." Naturally he was seconded by one of his cronies—a little man with an unpronounceable name whose understanding of modern political realities is sufficiently indicated by the fact that he teaches ancient Greek. "We are afraid"—apparently that's the typical attitude of the whole faculty—and that's about all there is to it.

No punishment can be too harsh for the soldier on the firing line who fails to obey his superiors—whatever reservations he may have about them. The college teacher is on the firing line of ideas—all ideas are, after all, weapons in the war for survival—and he is therefore bound to obey *his* superiors, whether he likes it or not. It's all right to say that bricklayers and bakers and piano-tuners don't have to take an oath of loyalty—for those jobs it doesn't matter so much what ideas you have. But a teacher, like a worker on atomic energy, is in a "sensitive" job. Obviously he's got to have the right ideas, if the university is going to hire him. How can a presumably intelligent faculty claim they have the right to teach ideas that are not right, but wrong?

No—we've got to clear away this double-talk and get to the heart of the matter. When this faculty starts voting unanimously the way totalitarian organizations do, it is all too evident that it, too, is a totalitarian organization, whether it knows it or not.

What makes the whole sorry business so criminal is that these faculty members, if they were a little less squeamish about protecting their privileges, could have so easily signed the oath. After all, the oath itself is pretty easygoing; they wouldn't really have committed themselves to anything by signing it. The oath reads, in part: "I am not, and have never been, a member of any organization which aims to overthrow the United States Government . . . or to change

its fundamental nature, or which owes allegiance to any foreign power or . . . organization, nor would I approve any act which would substantially contribute to the realization of the purposes of any such organization. . . ." This is clear enough, and you'd think those professors could see their plain [70 duty to stand by their government.

Ordinary citizens—plain, honest folks without a string of letters after their name, or a blurb in *Who's Who*—will find it hard to understand the sheer stubbornness of this refusal. The way it looks from here, there can be only one explana- [75 tion: these professors see a good chance to put another squeeze on the American public, and what they're really angling for, in a devious and round-about way, is a chance to demand more pay, as the price for their loyalty. That's the Judas touch. [80

Ironically enough, after they turned down the oath, the faculty voted a resolution in favor of democracy—a meaningless gesture, after flouting it so callously. Either you're *for* Americanism, right down the line, or you're *un*-American—anyone who won't go the whole way is no better than the [85 most ardent fellow-traveler.

The pathetic thing about it is that they're only cutting their own throats. By making such a fuss, they call attention to themselves, and inevitably arouse suspicion about their loyalty. In the end, they run the risk that an even more [90 severe oath will be demanded by the state legislature. As can be seen from a few misguided attempts to impose premature and bureaucratic FEPC codes on certain parts of the country, efforts to defend a threatened group against pressure from the majority, whether justified or not, always result in [95 making the defended group worse off than ever. Since the faculty apparently considers itself such a threatened group, its efforts to defend itself will inevitably put it in a worse position than before. Well—they're professors—let them learn their lesson. [100

Questions

I. How do you size up the passage? In the list of statements below:
   (a) Find the statement that most accurately summarizes the point of the argument (label it "P");
   (b) Find the three statements that most accurately summarize the

three main reasons leading to the point (label them "R").

1. The faculty should propose a more acceptable version of the oath and take the oath in that version.
2. By refusing to sign, the members of the faculty will make people more suspicious of them, and will thereby cause the imposition of a more severe oath.
3. The members of the faculty are fellow-travelers.
4. If the members of the faculty had signed the oath, they would have put themselves in a position to obtain more financial support from the legislature and alumni of the university.
5. The faculty should take the teacher's oath in the form proposed by the Board of Regents.
6. The members of the faculty have no right to refuse to take the oath.
7. The members of the Academic Senate should resign.
8. The members of the faculty are insincere in appealing to academic freedom to justify their refusal to sign the oath.
9. If the members of the faculty had taken the oath, they would have shown the unity of American resistance to Communism.
10. The entire Academic Senate should be fired at once.

II. What verbal pitfalls do you find in the passage? Find:
   (a) an example of quoting out of context;
   (b) an example of semantical ambiguity;
   (c) an example of syntactical ambiguity;
   (d) an example of equivocation;
   (e) an example of the black-or-white fallacy.

III. Where does the passage contain slanted language?
   (a) Describe the total impression (of the members of the Academic Senate) conveyed by the passage.
   (b) Find five examples of words or sentences that contribute to this impression.

IV. Where does the passage contain an argument from analogy? How would you answer this argument?

V. Find examples of:
   (a) identification with the audience: is it used for oversimplification or distraction?
   (b) *ad hominem* argument: is it used for oversimplification or distraction?

VI. Find:
(a) two terms that need to be defined, to eliminate ambiguity or excessive vagueness;
(b) an example of persuasive definition.

VII. How sound are the deductive arguments? Find:
(a) an example of inconsistency;
(b) a syllogism that is formally valid;
(c) a syllogism that commits the fallacy of undistributed middle;
(d) a syllogism with a suppressed premise.

VIII. How sound are the inductive arguments? Find:
(a) an example of hasty generalization;
(b) a hypothesis that is unnecessarily complicated, as compared with an alternative hypothesis.

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