

Don't You Believe It!

**Poking
holes
in
faulty
logic**

A. J. Hoover



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It!**

A. J. HOOVER

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Preface

This is a popular introduction to critical thinking, and it is based on the assumption that logic can be fun, not drudgery. After teaching logic for several years I know how the first brush with the topic can intimidate the reader. Is there any way you can ease painlessly into the subject? I think so, and I have written this book in an effort to accomplish that task.

There are introductions and there are introductions. One writer tries to cover a topic thoroughly from A to Z in a small space, which means he must be very superficial. Another writer does a short introduction that just tries to whet the appetite for the subject. He puts together a primer, a selection of easy yet interesting aspects of the topic.

This study of fallacies is an introduction to logic in the second sense. It doesn't claim to be an exhaustive introduction but concentrates only on popular, informal fallacies, "famous fallacies," you might say. When teaching logic I found that studying these informal fallacies was a good way to introduce the subject. The student warms to the excitement of the chase because there are so many examples of fallacies in modern life. Fallacies seem more real, relevant, and concrete than other parts of logic.

Yet, once the student has mastered a score or so of these fallacies, he has the mental machinery warmed up. The rest of logic then doesn't seem as intimidating as it once did. That means that I hope very much that the reader will go beyond this little book to a deeper study of critical thought, on to syllogisms, truth tables, linguistics, probability, and scientific method.

I strongly agree with the recent report funded by the Rockefeller Foundation where it is urged that "critical thinking" be viewed as a basic skill and be so defined by the US Department of Education.¹ Logic should be just as important as English, math, and science in our school curriculum.

My prayer is that God will use this book to benefit believers in their daily walk by helping them to become more discerning in their thinking.

NOTE

1. *The Humanities in American Life* (Berkeley: U. of California, 1980), *passim*.

Introduction

The German philosopher Arthur Schopenhauer once wrote, "It would be a very good thing if every trick could receive some short and obviously appropriate name, so that when a man used this or that particular trick, he could at once be reprovved for it."

I have written this little book to supply what Schopenhauer mentions here. **Our study of fallacies is just a list of tricks, mind tricks, logical frauds that people use to put over bad reasons for things.** In the chapters to come you are going to learn over thirty names for logical fallacies. In the future you can reprove someone for bad reasoning by citing the very rule he has broken. You should therefore exert yourself to master the name of the fallacy and then the error the fallacy commits. Then you should work to be able to spot the fallacy in actual argumentation. For this purpose we have an exercise at the end of the book in which you can try out your new knowledge.

THE ANATOMY OF A FALLACY

The word "fallacy" comes from the Latin *fallere*, which means "to deceive." **A fallacy is usually an argument that contains an unjustified inference, a mistaken im-**

plication. If an argument is fallacious, the conclusion does not follow from the premises or reasons given for it. Take, for example, the following argument:

Wife: "I'm going to vote for the fluoridation of our city water. I'd like to know what you think of that issue."

Husband: "I'm dead set against it! Senator Lathrop is in favor of fluoridation and he has an illegitimate child and I therefore wouldn't vote for anything he is for."

What is wrong here?

We have the fallacy of *argumentum ad hominum*—"argument to the man"—which is an attack on the person rather than the issue he is defending (see chapter 11). By attacking the senator's moral life the husband hopes to tear down the proposal under discussion—fluoridation. *Ad hominem* is one of the most common as well as one of the oldest logical tricks in the fraud book. All of us are tempted to commit it at times. It probably got its name in the Middle Ages, as you can see from the Latin title, but the Greeks were aware of it, and probably Methuselah was as well.

Ad hominem is a logical error because it focuses on something irrelevant. The conclusion is, therefore, a *non sequitur*, which is Latin for "it does not follow." When you hear an argument like that you can simply ask, "So what?" So what if the senator has an illegitimate child? What does that prove about the merits of fluoridation? Nothing, absolutely nothing. So many fallacies are *non sequiturs* that you should make it a habit of asking, "So what?" when you hear a sus-

picious premise being introduced.

Logic is primarily the science of proof. **It is concerned with the question of the adequacy of different kinds of evidence.** Its basic query is, "How do you prove this?" or "How do you prove anything?" **When you hear the word "because" in a conversation you know that an exercise in logic is about to take place. A logical fallacy occurs when the "because" does not follow, when the reasons given do not prove the bottom line.**

Why study fallacies first? Is it proper to study logical errors first? Why take up the *pathology* of argument before you learn the *principles* of argument? Usually we do it the other way around, don't we?

Yes, but I think logic is different. You have been thinking for years before you picked up this book, and much of your thinking has been logically sound. You may not know all the fancy terms used in logic, but you probably already have a natural sense for sound inference. The purpose of a logic course is to polish that native rational sense, to cultivate and sensitize that innate instinct for what is reasonable and what is fallacious. A flair for learning fallacies is an encouraging sign in a beginning logician, like a nose for news in a cub reporter.

Once you get into the swing of detecting fallacies you will see that the future is still open for naming errors in thinking. C. S. Lewis has given us a new one called "Chronological Snobbery," and I have suggested a new one called *argumentum ad futuris*. Who knows? You

may someday give us a new fallacy, or a new name for an old fallacy.

Each time I teach logic I find that studying the fallacies first gets the student off to a good start. Fallacies seem to be more real, more concrete, more colorful than other phases of logic. It's fun to hunt for fallacies in modern American life because they're so easy to find. Once your interest is aroused you can go on to other, deeper, phases of logic. If I can just whet your appetite for logic, I will feel amply rewarded.

1

The Principle of Contradiction

Probably the most basic law of human thought is **the principle of contradiction**. Some call it the “Law of Contradiction,” others call it the “Law of Noncontradiction.” Both terms refer to the same thing. Whatever you call it, **this principle is the basis of all rational thought and rational communication.**

What is a contradiction? It is not so much a thing as it is an *event*. **A contradiction occurs when two statements can't possibly be true at the same time and in the same re-**

lationship. If I say, "It is raining here right now," that contradicts the assertion, "It is *not* raining here right now." **Both of these statements cannot be true at the same time.**

Logicians usually identify three laws that all seem to stem from the basic principle of contradiction:

1. The **law of contradiction** asserts that A can't be both A and non-A at the same time and in the same relationship.
2. The **law of identity** asserts that A is A; that every event and every judgment is identical with itself
3. The **law of excluded middle** asserts that everything must be either A or non-A.

These three laws, taken together, make it possible for us to communicate rationally. Terms must have a certain specificity if we are to use them in rational discourse. A word must have a limited meaning. For, if a word meant everything, then it would mean nothing in particular. To mean anything, therefore, a term must *include* itself and *exclude* or *contradict* its opposite. If I tell you to turn on the lamp and, instead, you turn off the fan, then something is wrong. The term "lamp" doesn't mean "fan," and "turn on" is the exact opposite of "turn off." **You couldn't execute the simplest command without this law of logic.**

It is no great surprise that tests involving consistency are often used to test a person's sanity. **Without the principle of contradiction you couldn't detect a lie, because a lie is**

simply a contradiction between a person's statement and the actual state of affairs. One, therefore, must be puzzled at Ralph Waldo Emerson when he belittles the virtue of consistency: "A foolish consistency is the hobgoblin of little minds, adored by little statesmen, philosophers, and divines. With consistency a great soul has simply nothing to do." We should point out that if the principle of consistency is not important, Emerson could not have made his point here!

You may ask, "How can we prove this Law of Contradiction?" I answer: You don't prove it in the same way you prove most other things, because it is the basis of all other kinds of proof. **It is so ultimate in your thinking process, that it must be self-evident.** You could never get "behind" or "under" it— whichever metaphor you prefer. **You would have to assume it to deny it, or even to question it.** If you said, "I deny the Law of Contradiction," that would be the opposite of "I affirm the Law of Contradiction," **so you would have used the very law you're denying to deny it!**

As Aristotle pointed out to the skeptics of his day, I can make you affirm the law of contradiction by simply getting you to say anything significant *to both of us*. If you say anything at all meaningful you implicitly deny the contradiction of your own statement. Of course, if you say nothing at all, then I have nothing to refute. The only consistent course for a skeptic is to remain silent; a preaching skeptic is a contradiction in terms.

It is appropriate, therefore, that we begin this study of "famous fallacies" with

one of the most basic called contradictory assumptions or conflicting propositions. **You commit this fallacy when your case involves two propositions that could not possibly be true at the same time.**

People pose many questions that contain contradictory assumptions. The question, "What will happen when an irresistible force meets an immovable object?" is technically nonsense since the two things could never exist at the same time. If a force were truly irresistible, then there could be no immovable object, and vice versa. To ask, "What lies beyond the end of space?" is to assume that you have reached a terminal point which is not a terminal point. To ask, "What happens at the end of our individual existence?" presupposes that our existence comes to an end and that it does not come to an end. Did you hear of the man who trusted in dreams, dreaming that he should not trust in dreams?

Atheists often taunt theists with cute little questions like, "Could God create a rock He couldn't lift?" or "Could God think up something He couldn't do?" **Such questions usually demand the exercise of omnipotence or omniscience and the denial of the same traits at the same time. Since they contain contradictions they are strictly meaningless.** It would be like asking, "Could God _____?" If the question contains a contradiction, there is nothing in the blank.

Dr. Rene Dubos, professor of microbiology at Rockefeller University, got himself into a contradiction on the question of man's freedom:

One has to be free, but one has also to accept the con-

straints of the social order. As a scientist, I believe in determinism— but as a human being, I believe that at each moment of life one has freedom. In social affairs, we need as wide a range of freedom as possible; but on the other hand, without some constraints the social structure would collapse and we would collapse along with it.¹

Now, is man free or not? Yes and no, says Dubos. As a scientist he believes in determinism, but as a man he believes in freedom. Can one be a scientist and a man at the same time? The question is left unresolved. I would feel a bit better if Dubos had simply said that the entire problem is a sublime mystery.

Television people fall into a contradiction when they deny that violence on TV affects behavior and then turn around and sell commercial time to sponsors to advertise their products. Surely TV affects behavior, does it not, if advertisers will pay millions of dollars to get their products on prime time?

American businessmen have occasionally contradicted themselves when they have asked the government for a protective tariff. This was particularly true in the period after the Civil War. If the government passes a protective tariff to help business, that contradicts the principle of free enterprise, or *laissez-faire* capitalism *à la* Adam Smith. Free enterprise tells the government to stay out and not tamper with the delicate operations of the marketplace. If free enterprise is against government intervention, then it is also wrong for government to in-

tervene to help free enterprise. In fact, it would cease to be “free” if the government intervened.

Contradictory assumptions is a fallacy you find quite often in politics, especially democratic politics where candidates frequently make rash promises to get elected. We should be wary of any candidate who promises to both (1) reduce taxes and, at the same time, (2) increase defense spending, improve the schools, build new parks, provide old age pensions, pave new roads, and build new hospitals. If he cuts taxes, where will he get all the money to do those things?

Conflicting assumptions often turn up in social problems also. John W. Gardner calls attention to a pair of these in American ideology: “All men are equal” and “May the best man win.” We have here a clash between two values—equality and excellence. Gardner writes:

Some Americans have gone considerably beyond this [equality of opportunity] in their equalitarian views, insisting that no man should be regarded as better than another in any dimension, and that there should be no difference in status whatever.²

As Gardner shows, it will be impossible for any society to provide absolute equality and absolute opportunity at the same time. Any measures taken to protect the less competent people will restrict to some degree the opportunity for the more competent people to win. We may be able to achieve a balance between the two values, but they can never be absolute in the same culture.

The careful thinker must always be on his guard against contradictory assumptions, whether in philosophy, theology, or politics. As long as man's mind is constructed as it is, consistency will remain a bedrock standard for rational discourse. We may trust that our great American poet, Walt Whitman, was speaking partly in jest when he said: "Do I contradict myself? Very well then, I contradict myself. (I am large, I contain multitudes.)"³

NOTES

1. *Modern Maturity* (August-September 1971), p. 60.
 2. John W. Gardner, *Excellence: Can We Be Equal and Excellent Too?* (New York: Harper & Row, 1961), p. 13.
 3. H. L. Mencken, ed. *A New Dictionary of Quotations* (New York: Knopf, 1957), p. 218.
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2

Fallacies of Generalization

At one time in the long history of China a group called the Legalists ruled the country. They were a pessimistic lot, dedicated to the proposition that most men are evil and that statecraft must be squarely based on that premise. One of their sages loved to tell the story I have entitled, “The Parable of the Rare Rabbit.”

It seems that a man was resting beside a tree one day when a rabbit came bounding across the ground not looking where he was going and ran straight into the tree. The blow on

the head killed the unfortunate creature. The astonished man then proceeded to skin the rabbit and have him for dinner. He was so impressed with this easy method of procuring fresh meat that he sat at the foot of that same tree for forty years, waiting for another rabbit to come along and commit suicide for him.

Obviously, the man had a long wait. He had based his hopes on a once-in-a-lifetime event. Not the kind of event on which you would base your regular, everyday policy, is it?

The Chinese philosopher was using this story to warn us against **the fallacy of hasty generalization. You commit this fallacy when you “jump to a conclusion” before you have sufficient data**, when you base a general statement on a sample that is too small, or when you formulate general rules from accidental or exceptional situations.

Suppose, for example, that after two or three encounters with surly New York cab drivers you assert, “All cabbies in the Big Apple are surly.” Before you make a generalization you seriously intend to affirm you would need to ask yourself these questions:

1. Is the generalization based on a sufficiently large sampling? There must be thousands of cab drivers in New York. What percentage of that total number is two or three drivers?
 2. Is the sampling proportionately and/or widely representative? How many New York cab drivers have been observed to be surly? Did all those instances occur in one part of the city? Did they occur during
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the noon rush hour? What was the weather like that day?

Once you see what it takes to make a reliable generalization, it becomes obvious that many of our generalizations have very little foundation in fact. Yet, unfounded generalizations like that one get established in our minds and evolve into *stereotypes* with which we judge people from then on. A stereotype is an oversimplified, relatively fixed, and identical conception of all persons or things in a certain category.

We develop many kinds of stereotypes. What characteristic comes immediately to mind when we speak of blacks, Poles, and Orientals? Or professors, salesmen, engineers, and teachers? What about redheads, overweight people, short people, and hyperactive people? How do we view all Yankees, Southerners, Midwesterners, and Westerners?

Our knowledge of those types is sometimes based on a very hasty generalization, a very small sample. Too often our limited knowledge is based on cartoons, comic strips, and the media in general. For example, we have a stereotype of backwoods mountaineers as ignorant, extremely provincial, naive, poverty-stricken, superstitious, untidy, malnourished, lazy, dishonest.

Sometimes a giant philosophical system can be based on hasty generalization. Many students of Sigmund Freud feel that hasty generalization weakened his system. They believe that his sweeping conclusions about the psy-

chological problems of the human race were based on too narrow a foundation. First, Freud dealt mainly with mentally disturbed people. Second, he dealt mainly with Europeans, specifically with central Europeans. Third, most of his patients were Jewish. Fourth, most were from the upper middle class. Fifth, all of them lived during the First World War period. Now, most of mankind is not composed of disturbed, upper-middle-class, Viennese Jews living during World War I.¹

Another fallacy having to do with generalizations is called “the fallacy of the general rule.” Some logicians prefer to call it *dicto simpliciter*, which is Latin for “simple saying.” You commit hasty generalization when you go from a small sample to a general rule; you commit *dicto simpliciter* when you presume that what is true in general, under normal conditions, is true under all circumstances without exception.

Consider the following example: “It is my duty to do unto others as I would have them do unto me. Therefore, if I were puzzled by a question on a test, I would like my neighbor to help me out. Therefore, it is my duty to help this person beside me who is having trouble.”

Something is obviously fishy about this argument, as any moralist would tell you. The trouble comes from the naive, uncritical, unqualified use of the rule, “It is my duty to do unto others as I would have them do unto me.” One can heartily subscribe to this “Golden Rule,” enunciated by Jesus Christ, without wanting it to be applied

naively and uncritically. It is simply not correct to say that a person's duty is to always do unto others exactly what he would have them do unto him. You must qualify that rule with other rules of morality.

Many women defend their right to abortion by affirming, "I have the right to control my own body." Although many would agree with that view, to claim a right to have an abortion on such a basis is not sound logic. Why not? Because of the status of the fetus. Is the fetus a new person inside the womb, or is it just tissue? To say that a potential human being is "just tissue" seems clearly reductive, does it not? It is like saying a flag is "just a piece of cloth" (see chapter 4).

How could a woman refer to the fetus as just another part of her body when the creature growing inside has a totally different DNA code from the mother? When the sperm and the egg unite in conception, a new creature begins to grow—a creature with an entirely different genetic code from the mother and the father. To define the fetus, therefore, as part of the mother's body is to assert a dangerous half-truth.

To protect ourselves against hasty generalization we should cultivate the habit of being suspicious of sweeping generalizations based on just a few samples. To protect ourselves against *dicto simpliciter* we should practice being suspicious of simple sayings used as certain premises. Generic truths can have many exceptions, and hence should be used with caution.

NOTE

1. See Martin L. Gross, *The Psychological Society* (New York: Random, 1978), *passim*.

3

The Reductive Fallacy

The reader is probably old enough by now to have noticed that our universe is rich and varied. Some of the most important lessons in logic are designed to keep that wonderful diversity fully recognized in the halls of knowledge. Since reality has many aspects and many levels, we need many different concepts and languages to describe it properly.

If, for example, a child reads *Gulliver's Travels* and then describes how much he enjoyed reading about the little men running across Gulliver's stomach, he is giving a true description of the story on his special level. But an adult sociologist reading the same book would probably

enjoy the social satire of the tale. The sociologist would also be giving a true description on his special level. Both descriptions are true, but neither is exhaustive.

Humans often err by supposing that a description on one level excludes or invalidates a description on another level. What we really want for a coherent, comprehensive, and ultimate understanding of the nature of reality is description on all levels. Neglecting a description on some levels can only diminish our total understanding of the universe.

You commit the reductive fallacy when you stop with a one-level description when there are many levels to be described. You are mistaken when you “reduce” a complex entity to only one of its many aspects. Our generation is especially vulnerable to this problem of **over-simplification**—another term for the same error—because television has become so powerful in our lives. Television by its very nature favors the photogenic and simple minded spokesman who can flash a smile and reduce all issues to the parameters of a two-minute commercial break. Our modern passion for brevity is a standing invitation to reductionism.

There are certain cue words you should watch for in spotting a case of reductionism. Be on your guard for words like “just,” “only,” “merely,” and especially “nothing but.” Below is a list of typical reductive propositions:

1. Man is just an animal.
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2. You are what you eat.
3. Love is nothing but sex.
4. Religion is merely a sublimated sexual desire.
5. Belief in God is just a father-wish (Freud).
6. Ideology is just an economic epiphenomenon (Marx).
7. Music is nothing but sound waves.
8. Art is nothing but color.
9. A Beethoven string quartet is merely horsehair scraping on cat's bowels.
10. A sign is just paper and ink.
11. A flag is just a piece of cloth.
12. Woman is nothing but spare ribs (see Genesis 2:22).
13. Clothes make the man.
14. Mind is nothing but behavior (B. F. Skinner).
15. Man is just a bundle of chemicals.

The reader will notice that all of these statements have an element of truth in them. Flags are made of cloth; music does involve sound; art does involve color; man is largely what he eats. But when you add totalitarian words like *only*, *just*, *merely*, and *nothing but* you slip into reductionism. Man is more than his chemicals, his clothes, and his animality. Music is more than sound and art more than color. Each reductive proposition is a single-leveled description when the entity in question is multileveled.

Carl Sagan presents an ex-

cellent example of the reductive fallacy:

I am a collection of water, calcium, and organic molecules called Carl Sagan. You are a collection of almost identical molecules with a different collective label. But is that all? Is there nothing in here but molecules? Some people find this idea somehow demeaning to human dignity. For myself, I find it elevating that our universe permits the evolution of molecular machines as intricate and subtle as we.¹

Look closely at an example from language. You might not think that language could be so complex, but take the simple sentence, "I love you." Let's examine that sentence exhaustively.²

1. The lowest level in which the sentence, "I love you," can be described is the level of *letters*. This sentence has eight letters, all from the English alphabet, a subdivision of the west European Roman alphabet. It is composed of letters number 5, 9, 12, 15, 21, 22, and 25, and they are arranged in the order of 9, 12-15-22-5, and 25-15-21.
 2. The next level is that of *phonetics*, the level of letter sounds. In this sentence we have the long-*i* sound, the liquid consonant *l*-sound, the short-*o*, the voiced fricative consonant *v*, the silent *e*, the palatal semi-vowel *y*, and the diphthong *ou*.
 3. The next higher level is that of *words*. Letters interacting together according to the laws of phonetics form words. This sentence contains three words, two pronouns and one verb. At this level something new enters the analysis— meaning. As a result of interaction between letters according to the rules of
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phonetics, meaning becomes possible.

4. The next level is that of *grammar*. Words interact with one another according to certain rules to form sentences. We make up sentences with elements like subjects, objects, verbs, and phrases. In this sentence the subject is “I,” the object is “you,” and the verb is “love.” Following the rules of English grammar, we have a complete, meaningful sentence. But we can’t stop here.
5. The next level is that of *context*. To fully understand the sentence, we take the grammatical meaning of level 4 and ask questions like, “Who is speaking?” and “To whom is he or she speaking?” If the words are coming from one person to another to convey mutual commitment and trust, then a new height in the meaning of the sentence has been reached, personality, one that transcends letters, phonetics, words, and grammar.
6. The final level of description is that of *ultimate content*. As Aristotle noted centuries ago, this final meaning of things is usually the most important of all. This gets us into philosophy and metaphysics with questions like, “What does it mean to really love someone?” and “What does love ultimately signify?” and “Is altruism significant in the universe?” Many thinkers of a positivistic bent tremble at going so high in the descriptive process, but it seems that the higher levels of interpretation are the most important of all.

Now, after such an exhaustive analysis of a simple sentence like, “I love

you,” we can see how ludicrous it would be to say that this sentence is merely letters, or words, or sounds, or grammar. The world at large is just as complex as that sentence, and we should, therefore, be on our guard about oversimplified descriptions of it. To fully understand a complex entity like man will require input from several levels: physics, chemistry, biology, psychology, sociology, and theology.³

We must guard ourselves against the reductive fallacy by being suspicious of oversimplified analyses and descriptions of things, and by remembering how very complex reality usually is.

NOTES

1. *Time*, 20 October 1980, p. 68.
 2. For this helpful illustration I am indebted to Richard H. Bube, *The Human Quest: A New Look at Science and Christian Faith* (Waco, Tex.: Word, 1971), pp. 30-33.
 3. See the definitive study by Mortimer J. Adler, *The Difference of Man and the Difference It Makes* (New York: Holt, Rinehart, and Winston, 1967).
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4

The Genetic Fallacy

A special form of the reductive fallacy is the genetic fallacy. You commit reductionism when you reduce a complex entity to only one of its many aspects. **You commit the genetic fallacy when you claim that something is “merely” or “nothing but” its genesis, its origins— when you demean or belittle something because of its humble or inauspicious beginnings.** Whoever makes this error overlooks the patent fact of human experience that many great and wonderful things in life begin in very humble ways.

For example, a man starts out as a single, fertilized ovum. But it would be ridiculous for you to walk up to a fifty-year old man

and exclaim, "You're nothing but a fertilized ovum walking around!" A man's origins, no matter how unspectacular, prove nothing about his present state. Something that can grow, change, and improve is obviously going to outrun its origins; any observation made of it must correspond to its present status, not its beginnings.

Those who employ the doctrine of evolution in a simplistic way often fall into the genetic fallacy. That was especially true of "social Darwinism" in the late nineteenth and early twentieth centuries. Thinkers of this ilk argued that since man *began* as an animal, he wasn't much more than an animal now; just a very complex animal. Certainly the same laws that applied to animal behavior, like natural selection, must be applied to man also.

Darwinians failed to see that with man you reach a new rung on the ladder of life, a psychosocial dimension that separated man from the animals by a great gulf. Mental and social development in man is a new process, one that cannot be explained by mere biological mechanisms. Any analogy, therefore, between biological and sociological processes is likely to be misleading.

Hence, the basic error of social Darwinism (and we must never forget that Hitler's Nazism was just a crude social Darwinism) was to overlook the crucial difference between human powers of reason and morality and animal instincts. No Darwinian has yet given a satisfactory explanation of how a social *instinct*, which some animals have, developed into a social *conscience*, which man alone

possesses. Animal instincts are biologically inherited patterns of behavior. They are carried out automatically without conscious purpose. Human morality is something very different. You don't inherit an ethical code through biological mechanisms. As Tom Paine was fond of saying, "Virtue is not hereditary." One might say that culture and ethics are "trans-genetic." There is no gene for morality.

Therefore, when a man attacks morality with a Darwinian approach he must realize that he's wielding a two-edged sword. If morality "just evolved," then all other human faculties also "just evolved." That includes reason, the very faculty to which the Darwinian must appeal to make his case. Most Darwinian evolutionists value reason, but they contend that the human intellect developed from the physical brain of the primates. The mind once didn't exist and then supposedly evolved under the stimulus of struggle. Yet, despite this humble origin, reason is still trustworthy. If not, what just framed this objection? What constructed the theory of evolution? If the mind merits our trust, even though it has evolved from lower forms, why not also the moral nature?

We must remember that when we talk of reason and morality we are dealing with what can be called "the authority faculties." If we can't trust reason, then all our *thinking* is placed under suspicion. If we can't trust the moral faculty, then all our *ethical judgments* are thrown into question. The fact is, Darwinian evolution tends to belittle both reason and morality by merging both back into their

(alleged) animal origins and obscuring their uniqueness. This is the genetic fallacy.

There is a variation of the genetic fallacy called the psychogenetic fallacy. The word "psycho" in the term implies that the reductionism pertains to the mind or the emotions. You commit this fallacy when you assume that just because you can account for someone's having a certain belief, his belief is less likely to be true. This is incorrect. You don't refute an idea merely by showing why a person psychologically happens to believe in the idea.

For example, some people are born suspicious of other people. But, then, there are times when we have very good reasons to be suspicious of some people. I can't reject a man's suspicions by simply saying: "Oh, don't listen to him, he just has a suspicious nature!" The psychological reason for a man's being suspicious doesn't prove that there is no good evidence for his suspicions. At most, it proves that his suspicious nature isn't enough by itself to make us suspicious.

Another example: you could say that William Lloyd Garrison and Theodore Parker, two vigorous opponents of the institution of slavery, were just against slavery because of psychological reasons. Both were energetic, hyperactive, and self-righteous. You could argue, "They were against slavery simply because they were high-strung and nervous. If it hadn't been slavery they would have been laboring feverishly in some other crusade of the period."

This may be true, but it in no way refutes the anti-slavery position. The physical and/or psychological conditions of a man's crusade are always irrelevant to the justice of the crusade itself. It stands or falls on its own evidence, not on the psychology of its champions.

One of the finest examples in history of this fallacy is Sigmund Freud's attack on theism, belief in God. The great Viennese doctor said that God was nothing but a psychological projection. He argued that God doesn't exist, but that the belief in God is widespread in all human cultures because man "projects" his fears onto the universe as a whole. As a child grows up he learns to lean on his (real) earthly father for psychological support in the early, fragile years. When he matures, he finds out that he must give up this parental crutch and face the world alone. Such isolation is too much for most people; they create an imaginary cosmic father, God, and then proceed to fear and propitiate him and trust him for lifelong protection. Thus did Freud explain religion as a universal neurosis.¹ Three other thinkers who committed the same fallacy in their attacks on theism were Ludwig Feuerbach, Karl Marx, and Friedrich Nietzsche.

But the psychological reason why I believe in God in no way renders it less probable that God exists, nor conversely does it prove that God exists. It proves nothing either way. You could put the shoe on the other foot and argue that all naturalists believe in materialistic determinism because they are insecure and have failed to relate to

people in their lives. Failing to relate to human beings, they turn to things, to atoms and molecules, whose behavior can be perfectly predicted. But this reasoning would be just as faulty as Freud's. You don't refute an idea by simply showing— even correctly— why some people have the idea.

We can avoid the genetic fallacy by remembering that the beginnings of something do not always tell us everything about its present state. We can avoid the psychogenetic fallacy by reminding ourselves that you don't refute an idea simply by identifying the psychological reason why a person holds it.

NOTE

1. See his *Future of an Illusion* (New York: Doubleday, 1957), pp. 39-40.
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5

Faulty Dilemma

The world in which we live is sometimes a trap for the logician. Life and reality are not illogical, but they often snare you into mistaken judgments. Reality has a nasty habit of bursting our little carefully constructed pigeonholes. As a popular comedian has said, “The only thing that really fits into a pigeonhole is a pigeon.”

One of the easiest mistakes for the mathematically inclined rationalist to commit is **faulty dilemma**, also called the **black-or-white fallacy**. You commit this fallacy when you suppose that in a given situation there are only two alternatives, when in fact there are more than two. The thinker is particularly vulnerable to this mistake when the two

choices are opposite extremes: black or white, good or evil, communist or capitalist, true or false.

This is not to say that all assertions of mutual exclusion are always wrong. Many factual situations are legitimately two-valued. For example, you either exist or you do not, you are either alive or dead, the electric current is either on or off, the car will either run or not run. Obviously, the lady who protested that she was only “a little bit pregnant” had no case at all.

But many situations are multi-valued, not two-valued, and you pose a false dichotomy when you reduce the richness and variety of the spectrum to just two dimensions. Some of our most vociferous disputes are in reality black-or-white fallacies: private versus public schools, city versus country living, chemical versus organic fertilizers, natural versus synthetic vitamins, faith versus reason, science versus religion, and freedom versus authority. In each of those cases, the dilemma posed is a faulty one.

Racism is a tragic case of a faulty dilemma. Most racists divide the human family into just two groups, usually something like white and nonwhite, human and subhuman, teachable and unteachable, culture producers and culture destroyers.

Hitler divided all men into Aryans and non-Aryans. But he had a problem with the Japanese, who were valuable allies to Nazi Germany. Obviously they were “good guys,” but by no stretch of the imagination could he classify them as

Aryans. Hitler magnanimously referred to them as “the Aryans of the Orient,” but that was clearly just a metaphorical use of the beloved term. Finally, the Nazis solved the problem by giving the Japanese the special designation of “non-non-Aryan”! That cumbersome epithet finally covered a considerable group of German allies.¹

Communist philosophers have an unfortunate tendency to black-or-white thinking. Karl Marx, despite his claim to have revealed to us a “scientific socialism,” had a highly *un*-scientific proclivity to impose rigid either-or patterns upon the fluid complexity of life. People were either exploited or exploiters, either haves or have-nots. There would be either total overthrow or no significant change. Either capitalism or communism would prevail; nothing in between, no possible mixture. Facts that did not fit that neat paradigm were brutally crowded into the two pigeonholes anyway.

In Lenin, this trait was even more pronounced. One might say that Lenin founded the Bolshevik Party on a faulty dilemma, and the USSR carries it around in her bosom to this day. Against his enemies, the Mensheviks, Lenin stoutly denied any possibility of a middle position between the old order and the new order to come. Consider the following assertion:

Since there can be no talk of an independent ideology being developed by the masses of workers in the process of their movement, *the only choice* is: either bourgeois or socialist ideology. There is no middle course (for humanity has not created a “third” ide-

ology, and moreover, in a society torn by class antagonisms there can never be a non-class or above-class ideology). Hence to belittle socialist ideology *in any way, to deviate from it in the slightest degree* means strengthening bourgeois ideology.²

The French existentialist philosopher, Albert Camus, committed a faulty dilemma in his novel, *The Plague*. The novel tells of a terrible plague brought by rats to the city of Oran in north Africa. As the tale unfolds we find the nontheistic doctors fighting the plague and the Roman Catholic priest not fighting it because he might be resisting the will of God. Camus confronts us with this dilemma:

1. Either you join the doctors to fight the plague, or
2. You must join the priest and remain passive.

That is a painful choice, for if you don't join those resisting the plague you would be inhumane. But to fight the plague would be to resist the God who sent it. Therefore, if humanitarianism is right, theism is wrong. To do good is to oppose God!

Naturally, theists feel that Camus was guilty of black-or white thinking here, and he was not too subtle in constructing the dilemma. It is a false dichotomy to say that one is caught between fighting the plague and believing in God. The theist could well argue that fighting the plague is working for God (Ezekiel 18:23). Moreover, the Christian would insist that men have brought the plague on themselves by their rebellion against God

(Genesis 3:14-19). The long history of religious charities is sufficient refutation of Camus's false dichotomy.

We can protect ourselves against the "faulty dilemma" by being ever alert to the richness, variety and complexity of reality. Every time we hear a dichotomy, an "either-or," we should immediately look between the horns of the dilemma to see if there is any middle ground.

NOTES

1. Stuart Chase, *Guides to Straight Thinking, with Thirteen Common Fallacies* (New York: Harper & Row, 1956), p. 136.
 2. V. I. Lenin, *Selected Works*, 3 vols. (New York: International, 1943), 2:68.
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6

Argument of the Beard

Have you ever faced a situation in which it was difficult to draw a line on something, but you finally exclaimed, “We’ve got to draw a line somewhere!” If so, then you are probably familiar with the context in which the fallacy called **argument of the beard** is committed.

This fallacy is well-named. Think how difficult it would be to decide the question, How many whiskers does it take to make a beard? Surely one whisker is not enough. How about a light five o’clock shadow? Would twenty-five be enough? We have difficulty determining an exact minimum of hairs to qualify for the word “beard”. But does that mean that we can never assert, “He has

a beard” or “He is clean shaven”?

Of course not. Life is full of cases like the beard where qualities are ranged on a **continuum** from less to more. You commit **argument of the beard** when you assert that there is no real difference between the extremes on the continuum. Hence, this fallacy is just the opposite of the **faulty dilemma**, in which you fail to admit the possibility of a middle ground between two extremes. Here you get lost in the middle ground, the state of continuous and gradual shading between the two extremes, and begin to doubt the existence of real differences between such obvious poles as good and evil, strong and weak, and white and black.

For example, suppose in the course of a lengthy conversation on morality I affirm that, “Stalin was an evil man and St. Francis was a good man.” Suppose someone contradicts my assertion by claiming that, “All saints have problems and all sinners have some virtues, therefore you can never call one man good and another man evil!” That would be absurd and would show an advanced case of blindness— “shade blindness.” It would be like arguing that since strength and weakness are matters of degree and are spread out on a continuum, there is therefore no real difference between the power of an Olympic weightlifter and a newborn infant!

When you commit **argument of the beard** it often reveals your inability to distinguish or recognize small differences where they are really significant. If someone more adept in the field points them out to you, your first impulse may

be to accuse him of “splitting hairs.” But closer attention to small differences will gradually reveal their importance. Learning to see fine distinctions is an important part of an education.

We often face situations in which we must draw arbitrary lines on the basis of small differences. A teacher who grades on the curve must decide where the breakpoint will fall for A, B, C, or D. If he draws the line so that 60 percent is the breakpoint for a D, the student with a score of 59 percent may complain that one point should not make that much difference. But then, if the teacher drops the line to 59 percent, the student with 58 percent can make the very same complaint. If that keeps up the teacher will finally have to give up the attempt to draw any lines at all. But that would be shirking his responsibility. If you draw no lines at all, you will be treating the student who scores 100 percent the same as the student who scores zero! Surely that would be wrong.

You commit the **argument of the beard** when you dispute the right of some authority to draw lines on a continuum between two extremes merely because the differences are small.

Argument of the beard can be especially dangerous in moral situations because it is tempting to rationalize behavior that is only slightly different from wrong behavior.

Sociologists sometimes seem to have a weakness for this fallacy. Perhaps it is because they are such good analysts of social pretension, power, and authority. They love to prick the

claims of the arrogant. Their favorite pastime is debunking, belling the cat, showing the emperor has no clothes. In all your debunking, however, you should take care lest you leave the impression that there are no real values in the world. As Peter Berger indicates, you can relativize so far that you relativize your own system out of existence.¹

For example, in the 1960s I often heard it said that “Amerika” (some people deliberately spelled it with a *k* to suggest a similarity with Nazi Germany) was no better than Russia, Cuba, or any nation that we traditionally criticize. The USA was the land of the plutocrat and the home of the exploiter. Many such radicals ran away to other lands, confident that they would find a better society somewhere else. But in the 1970s, many of them came back home and confessed that they had been wrong. America has its problems, to be sure, but other nations have worse problems.

True, the USA has its problems. Justice is not always done, equality is never totally victorious, but things are much better than in Russia, Uganda, North Korea, or Vietnam. Anyone who surveys the situation fairly will be able to affirm that, in general, America is a free and open society while all those others are closed and autocratic. The difference is one of degree, true, but the difference in degree is striking, and anyone who misses it is truly “shade blind.” You seldom saw people scaling the Berlin Wall to escape into East Germany!

History leads us to believe that those who cannot see degrees of good and evil

should not be allowed to make political decisions. They usually foul things up. The person who reasons, "Since we're not perfect, we should never criticize anyone," should be kept out of the role of making policy. As Winston Churchill said, "The maxim, 'Nothing avails but perfection,' may be spelt: 'Paralysis.'"²

We can protect ourselves against the **argument of the beard** by remembering that small differences on a continuum are important, and that they have an uncanny way of accumulating into large, significant differences.

NOTES

1. Peter Berger, *Rumor of Angels* (New York Doubleday, 1969), pp. 48-60.
 2. *A Churchill Reader: The Wit and Wisdom of Sir Winston Churchill* (Cambridge, Mass.: Riverside, 1954), p. 387.
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7

Begging the Question

Once upon a time there were three fools who rode their horses up to the saloon. Instead of tying the horses to the rail in front of the saloon, each fool tied his horse to the one next to his, thinking, of course, that he had secured his own horse. Naturally, in a few minutes all three horses ran away.

Premises in an argument, like fools' horses, must be tied down or the argument will run away. **Begging the question** is like tying the parts of your argument to each other rather than to something independent and solid. It is reasoning in a circle, using your conclusion as a premise, assuming the very thing to be proved as proof of itself. In Latin

we call it *petitio principii*, which means literally, “postulation of the beginning.”

A very common instance of **begging the question** is when a man says, “All the experts and the authorities on this question agree with me.” If that sounds too arrogant, he may sometimes assert, “All the **competent** authorities agree with me on this question.” But when you ask him how he determined that such men were experts or were competent authorities, the only thing he can come up with is the fact that they agree with him. “The experts agree with me; I know they are experts because the definition of an expert is one who agrees with me.”

Suppose you argued that whatever is said by Joseph Smith is true, because the Book of Mormon states that Smith was a true prophet. Further, what the Book of Mormon says is true because Smith received it from God, and we know that Smith got it from God because Smith himself said so. Such an argument is obviously moving in a circle, begging the question at issue. Unless you can nail down securely one of those assertions, the argument is unreliable. All the parts are tied to each other, like the fools’ horses.

One of the most famous cases of *petitio principii* in history occurred in Aristotle’s *Nicomachean Ethics* where the great Greek philosopher contended that “the good” is that of which a good man approves and that a “good man” is one who approves of that which is good. That is profoundly true, of course, but not immediately il-

luminating. It would be like saying, "Logic is what a logical thinker does when he is thinking logically," or "The scientific method is what a scientist does when he is thinking scientifically." None of those definitions is very helpful.

Evolutionists reason in a circle when they argue for the date of fossil-bearing rocks. They blandly assume the theory of evolution to be true, and then date the rocks with simple organisms as old ones and the date rocks with complex organisms as young ones. Anyone, even a layman, could see that you must know the age of the fossils before you can use them to date the rocks. Otherwise you are clearly reasoning in a circle; you date the fossils by the rocks, and then date the rocks by the fossils! This erroneous reasoning has been scored by more than one scientist. Robert H. Rastall wrote in *Encyclopædia Britannica*:

It cannot be denied from a strictly philosophical standpoint that geologists are here arguing in a circle. The succession of organisms has been determined by a study of their remains embedded in the rocks, and the relative ages of the rocks are determined by the remains of organisms that they contain.¹

Many people honestly think they are explaining the cause of something when they are just reasoning in a circle by restating themselves. For example, someone asked John B. Layton, police chief of Washington, D.C., "To what do you attribute the rash of weekend robberies in our nation's capital?" Layton replied, "The biggest factor is the inclination of certain individuals for acquiring

funds by illegal means.” When asked to identify the cause of unemployment, President Calvin Coolidge came up with this jewel: “When more and more people are thrown out of work, unemployment results.”²

Some crafty thinkers know how to protect themselves from refutation by a skillful use of question-begging definitions. Suppose someone asserts that, “All philosophers are optimistic,” and you quickly produce Schopenhauer as a contradiction to his generalization. Such a person would reply, “Oh, but he wasn’t a genuine philosopher since he lacked the crucial characteristic of discerning the ultimate purpose of the universe.” There is no way you can win this kind of argument since the person uses definition to ward off all contrary evidence.

We can be grateful that we live in a country where such a fallacy is strictly forbidden in a court of law. If a prosecuting attorney were to constantly refer to the defendant as “this murderer,” the judge would remind him that proving the defendant a murderer was what the trial was all about and that he therefore had no right to presume it in advance of the jury’s verdict.

We can best protect ourselves against **begging the question** by checking all the premises in an argument and making sure that the premises are not just the conclusion in slightly altered form.

NOTES

1. *Encyclopædia Britannica*, 14th ed., s.v. "The Geological Datum-line."
 2. Stanley Walker, *City Editor* (New York: Blue Ribbon, 1934), p. 131.
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Misuse of Authority

No one is omniscient. All of us find it necessary from time to time to appeal to an authority or an expert to prove something we believe. There is nothing wrong with citing a competent authority to bolster your position; human life would be difficult to manage without experts. We all start out by arguing, “My daddy said so,” and we progress to “My teacher said so,” and later to “My minister said so” or “My analyst said so.”

The British used to post a sign in some of their schools that read, “The teacher could be wrong. Think for yourself!” That is as good a defense as you can find against **misuse of authority** or *argumentum ad verecundiam*, an “argument to re-

vered authority.” **You commit this very common logical error when you break two rules about appealing to authority.**

First, you shouldn’t use an expert to prove something unrelated to his field of competence. An expert on Renaissance art is not necessarily equipped to help you with your nutrition problems. No man can be an authority on every topic. Some men are world experts in a limited field and faddists in other fields. Some Nobel prize winners prove to be poorly informed in any field outside their specialization.

If someone cites a poll of experts to prove a certain point, you should just reply, “That’s great, but if all those beautiful people believe in this proposition, then there must be some mighty good evidence for it. Please give me the evidence, because your poll is irrelevant. Wasn’t it the evidence that convinced all those authorities in the first place?”

Second, an even subtler misuse of authority occurs when you cite an expert on an issue— even in his field— and then you assume that his evaluation is infallible. Don’t forget that your authority is still human, finite, and subject to error. The fossil fraud called Piltdown Man fooled the experts for decades before it was exposed. Over five hundred doctoral dissertations were written on it.

Many experts can amass a mountain of facts on a certain topic, but fail to relate them properly or fail to draw the proper inferences from them. Sometimes a high school student can detect an error in inference or judgment made by an ex-

pert. The great Albert Einstein divided by zero at one point in his relativity calculations— a schoolboy mistake that was detected by a Russian mathematician, Alexander Friedmann.¹

The trouble with an appeal to authority is that it freezes thinking. The big name, the big thinker, the big book, the big quotation— they are all introduced to make you feel as if you were at the foot of Mt. Sinai, and as if any word of protest would be blasphemy.

For some modern people, Adam Smith or Karl Marx or Sigmund Freud is as infallible as Aristotle used to be for the people of the Middle Ages. It is the duty of the logical thinker to break out of this frozen authority, this intellectual igloo, and think for himself. As John Stuart Mill wrote in his great book, *On Liberty*, “The fatal tendency of mankind to leave off thinking about a thing when it is no longer doubtful, is the cause of half their errors. A contemporary author has well-spoken of ‘the deep slumber of a decided opinion.’”²

The President of the United States is one who must continually rely on experts for his opinions and judgments. In picking your authorities it is good to go with someone who has a good or at least a fair track record. Recall the many members of Congress who accepted the expert opinion of certain military advisers that the Vietnam War would end in 1969 or 1970. Those same authorities had been saying the same thing for several years. Recall the economic advisers of President Carter whose projections for inflation and unemployment between

1976 and 1979 were way off the mark. As Howard Kahane says, “If you have to rely on expert opinion, at least choose experts who have been relatively successful in the past.”³

We should especially be on our guard when an alleged expert speaks with putative authority on a question in philosophy or metaphysics, where a measure of speculation is inevitable. For example, a distinguished Nobel laureate may one day announce that he does not believe in God, that he stopped believing at age twelve when a certain prayer went unanswered, and that he has since not encountered any evidence for theism. This testimonial impresses many people. If God exists, they ask, how could so great a mind have missed him?

Careful! This man is clearly out of his field. Ask yourself: “Would this ‘authority’ normally encounter God in his field of competence?” If not— and the answer is usually not— then he really knows no more about the existence of God than, for example, the filling station attendant down the street. A Nobel prize is a wonderful thing to have, but it is no license to pontificate.

One helpful rule when dealing with *ad verecundiam* is that some experts are more trustworthy than others. Not all authorities are created equal; some are more equal than others. Experts with a special interest, an axe to grind, you must take *cum grano salis*. Suppose you were to write a tobacco company and ask if smoking is wrong? Or, suppose you were to write to a brewery and ask if drinking is wrong? What kind of answer do you think

you would get?

Kahane suggests another helpful rule: we need to become experts ourselves on controversial topics. We should not leave ourselves at the mercy of the authorities. When experts disagree, which is often, the rest of us must become our own experts, or at least mini-experts. We can use the authorities to get our data, evidence, reasons, materials, statistics, and arguments, but we don't need to take their conclusions or opinions. We can learn to make our own inferences from the same data used by the experts. To dispute with the experts, you must become a mini-expert yourself.⁴

One of the most valuable by-products of a study of logic is handling this fallacy, **misuse of authority**. By knowing the rules of thinking in general, you can see through the smoke-screen of *ad verecundiam*. You may not have all the facts, but you can tell when the facts are being mishandled.

NOTES

1. Robert Jastrow, *God and the Astronomers* (New York: Norton, 1978), p. 25.
 2. John Stuart Mill, *On Liberty*, ed. Charles W. Eliot (New York: P. F. Collier and Son, 1909), The Harvard Classics, 25: 246.
 3. Howard Kahane, *Logic and Contemporary Rhetoric: The Use of Reason in Everyday Life*, 3rd ed. (Belmont, Calif.: Wadsworth, 1980), p. 36.
 4. *Ibid.*, p. 35.
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9

Misuse of Analogy

Reasoning from analogy is one of the oldest and most fruitful of human mental activities. It has been the source of some great scientific discoveries. It can sometimes go wrong, however, and we should be on our guard against *misuse of analogy*, when someone tries to prove a crucial conclusion merely by giving a parallel case. Remember the good old rule of literary interpretation: *metaphors don't prove, they illustrate.*

Consider the following faulty argument: "The brain is like a sponge. The brain absorbs knowledge; a sponge absorbs water. After a time, the sponge becomes saturated and can hold no more water. Therefore, learning must also stop af-

ter a time because the brain can hold no more knowledge.”

I apologize to the sleepy student who devised this jewel, but, as a matter of fact, the brain does not acquire knowledge in just the same way a sponge absorbs water, and hence this argument won't—pardon the pun—hold water. This analogy may be helpful in certain respects, but in others it is positively mischievous. Misuse of analogy occurs when you draw a false inference based on the comparison of things like brains and sponges.

How many times have you heard someone say, “Better be careful! One rotten apple can spoil the entire barrel, you know.” This old proverb may rely too heavily on the parallel between apples in a barrel and people in a society. It's true that one misbehaving individual can cause others in a group to misbehave, but it's also true that, on occasion, one well-behaved individual can cause the group to improve their behavior. Since both possibilities exist, we should be careful when we compare people to apples.

Teaching evolution in the public schools has become a political issue in the last few years in the United States. Those who oppose the treatment of creation along with evolution argue, “If we have to teach the creation theory along with evolution, then we would have to teach the stork theory along with the correct account of the origin of babies.” That is a poor analogy because it is rather easy to prove with solid experimental evidence the traditional account of where babies come from, whereas it

is not that easy to establish the doctrine of evolution. Whatever evidence evolution may have, it hardly merits comparison with the direct empirical proof we have for the origin of babies.

Plato used a dubious parallel to show the folly of government by democracy. What would you do, he asked, if you were at sea and the captain of your vessel suddenly died? Whom would you select to pilot the craft? The most handsome person? The most wealthy? The most powerful? Or, would you choose the person who had some knowledge of navigation?

This old argument for aristocracy sounds plausible until you ask: Is the state really like a ship? I know we speak of "the ship of state," but that hoary expression does not make them really alike, no matter how long mankind has used it. Ship captains can be specifically trained to handle vessels on the sea, but can you train a political leader in the same way? Must all successful political leaders be professional politicians? Is it possible for a layman to become a great statesman? Once you pose all those questions, Plato's analogy loses a great deal of its original punch.

Defenders of the inhumane institution of slavery used to employ an erroneous analogy comparing the slave to a child. Southern slaveholders insisted that a black man was just a child all of his life. Not even as an adult could he be trusted to accept adult responsibility. Hence, like any child, he needed constant guidance, control, and direction. Lacking mature self-control, the negro

could never be granted the freedom of an ordinary citizen.

Southern apologist George Fitzhugh compared slaves to women and children. "We do not set children and women free because they are not capable of taking care of themselves, not equal to the constant struggle of society. To set them free would be to give the lamb to the wolf to take care of. Society would quickly devour them.... But half of mankind are but grown-up children, and liberty is as fatal to them as it would be to children."¹

John D. Rockefeller used a questionable analogy to plug his special brand of social Darwinism in America. He compared the growth of a large business to the growing of roses. "The American Beauty rose can be produced in the splendor and fragrance which brings cheer to its beholder only by sacrificing the early buds which grow up around it. This is not an evil tendency in business. It is merely the working out of a law of nature and a law of God."²

In 1941, Franklin Roosevelt pushed through Congress the epochal Lend-Lease Act, a bill that empowered the United States to lend or lease guns and equipment to the nations fighting Hitler. Lending or leasing equipment was a shrewd device to get around the policy of selling it directly to the Allies, a policy that would have angered influential isolationists.

FDR defended Lend-Lease with a striking analogy. He said it was like helping your neighbor put out his fire by lending him your

garden hose, a magnanimous act that would also protect your own house from the fire. When the fire was out, he said, the neighbor would return the hose. The analogy wasn't too good, however, because, as Senator Robert Taft pointed out at the time, lending arms is like lending chewing gum—when the borrower is finished with the merchandise, you don't want it back! Who wants a "chewed-up" tank? This was a case of correcting a poor analogy with a better analogy.

We can protect ourselves against misuse of analogy by reminding ourselves first, that two things may be alike in many ways, and yet, be very different in others; and second, that metaphors do not prove, but only illustrate. After you have heard that beautiful analogy you must still ask: "Where is your evidence?"

NOTES

1. George Fitzhugh, *Slavery Defended: Views of the Old South*, ed. E. L. McKittrick (Englewood Cliffs, N.J.: Prentice-Hall, 1963), pp. 37-38.
 2. See Richard Olson, ed., *Science as Metaphor: The Historical Role of Scientific theories in Forming Western Culture* (Belmont, Calif.: Wadsworth, 1971), p.111
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10

Chronological Snobbery

You might think that all the possible logical fallacies man could commit were identified or tagged in classical times or in the Middle Ages. That is not true. Every now and then a person can spot a new fallacious mode of thinking and give it a name.

C. S. Lewis coined the term **“chronological snobbery” for the error of refuting something by dating it.** He claims it was very prevalent in England during his college years.¹ In the

interest of keeping such terms in the Latin language, I suggest we call this fallacy *argumentum ab annis*—“argument because of age.”

Chronological snobbery is indeed a fallacy, a logical error— a mistake in rational thinking. **You commit it when you try to destroy an idea merely by dating it, usually dating it very old.** A chronological snob is quick to say that something is “out of date.” He usually employs some temporal adjective to denigrate a position, such as “Victorian,” “medieval,” “primitive,” “prescientific,” or “antediluvian.” If you can show that a notion came from the “Dark Ages,” you need not say anything more about it.

The erroneous assumption here is that something is false just because it is old or it’s true just because it is new. But age is not a criterion of truth— either way, young or old. Some very old ideas are still true and some very modern ideas are false, and vice versa. A classical example of this fallacy was the slogan of some American youth a decade ago, “Never trust anyone over thirty!” (I was exactly thirty when I first heard that, and you can imagine how disturbed I was!) In most traditional cultures you would more often hear the opposite: “Never trust anyone *under* thirty!” In fact, both assertions are wrong. Trust is not necessarily a function of your age; it is a function of your character, regardless of your age.

G. K. Chesterton scores a direct hit against this error when he writes:

It is incomprehensible to me that any thinker can calmly

call himself a modernist; he might as well call himself a Thursdayite The real objection to modernism is simply that it is a form of snobbishness. It is an attempt to crush a rational opponent not by reason, but by some mystery of superiority, by hinting that one is specially up to date or particularly "in the know." To flaunt the fact that we have had all the last books from Germany is simply vulgar; like flaunting the fact that we have had all the last bonnets from Paris. To introduce into philosophical discussions a sneer at a creed's antiquity is like introducing a sneer at a lady's age. It is caddish because it is irrelevant. The pure modernist is merely a snob; he cannot bear to be a month behind the fashion.²

Chronological snobbery seems to afflict modern man worse than any before him. When man makes a great advance in scientific knowledge it usually gives him a superiority complex with respect to past cultures. His new knowledge seems to cast previous civilizations in the shade. He says condescendingly, "Why, those people didn't even know that the earth goes around the sun! Why should we bother about them any more? What could we possibly learn from them?"

Look at what modern man has done, declares the snob. The list is impressive. Copernicus displaced the geocentric theory of the solar system; Newton discovered the law of gravity; Harvey discovered the circulation of the blood; Dalton rediscovered the theory of atomism; physicists have split the atom; and so on. Those great scientific advances have so altered our thinking about the ex-

ternal world that we are inclined to think that the world was plunged into utter darkness before our “enlightenment” came. (As a history teacher I have a constant battle on my hands to convince college freshmen that the study of American history or western civilization is “relevant.” In the opinion of many, if you can’t turn a buck with it, it’s useless material.)

Too easily, far too easily, we forget that great civilizations in many ways superior to our own flourished before the breathtaking scientific advances of modern times. We have large areas of culture that are not fundamentally affected by revolutions in our theories about the world of nature. This point is one of the hardest for the worshiper of modernity to grasp.

John Milton grasped it well. Despite his knowledge of the new Copernican cosmology, Milton chose to abide by the Ptolemaic cosmology in his *Paradise Lost*. In Book VIII, Milton makes the angel Raphael say to Adam:

What if the sun
Be center to the world, and other stars
By his attractive virtue and their own
Incited, dance about him various rounds?

(VIII, 122-125)

What if that light
Sent from her through the wide
transpicious air
To the terrestrial moon be as a star
Enlightening her by day, as she by night
This Earth?

(VIII, 140-141)

In other words, Milton was asking, What if there are other ways of viewing the heavens? So what? "Great or bright infers not excellence." That is, wisdom does not necessarily come from correct cosmology. Not everything in human life is a mere function of scientific accuracy. Look at the philosophy and art of classical Greece, or of medieval Paris, or of Renaissance Florence— none of those has been diminished by the revolutions of Copernicus, Newton, Darwin, or Einstein. Men did not have to know that the earth goes around the sun in order to create Greek literature or Roman law or Hebrew religion or Gothic architecture.

Ask yourself: Why are science books usually out of date after a decade or so? Why do we still study prescientific thinkers who speculated on nonscientific topics and who lived centuries ago? Why do we still read "classics" like Plato, Dante, and Shakespeare? Obviously, those thinkers said something that still speaks to us, something that all our modern science has not antiquated. A classic is something that is never "out of date." It is a story, a poem, a proverb, or a truth that speaks to the perennial depths of man. The long life of the classics is a standing refutation of scientific hubris and chronological snobbery.

In the election of 1980, both the Democrats and the Republicans were busy committing chronological snobbery, although the Democrats seemed to be busier than the Republicans.

For example, I heard a speaker on national television during the Democratic

national convention say that Ronald Reagan had a “neanderthal mentality.” Another speaker, a representative from NOW (National Organization for Women), said Reagan had a “medieval view of women.” All this reminds one of the campaign the Democrats executed so effectively against Barry Goldwater in 1964. “What would Barry do for defense?” they asked. “Why, he would have John Wayne get all the wagons in a circle!” One of their favorite quips was that “Goldwater was the greatest thinker of the eighteenth century.”

As a matter of fact, the eighteenth century produced some pretty illustrious thinkers. I would not mind at all being classified with the minds of that century— if, I say *if*, my position had good evidence for it, evidence other than the time location.

That is just the point. A man’s ideas are true or false depending on good evidence, not on age. If you know enough history I suppose you could prove that there is “nothing new under the sun” (Ecclesiastes 1:9). Every new idea could probably be found, in essential form, before the present time. That does not prove it right or wrong, wise or foolish— just old.

The Democratic party has dominated American national politics in this century with a string of “new” programs offered to the American people. We have had the “New Freedom” of Wilson, the “New Deal” of Roosevelt, the “New Frontier” of John Kennedy, and finally the “New Hope” of Edward Kennedy, which might have be-

come our latest slogan had he been nominated. The fact that he was not may indicate that the American people are tired of that hackneyed label “new.” Perhaps they want evidence for a program other than its alleged novelty.

On the other side of the fence, the Republicans in 1980 were saying, “Vote Republican for a change.” They talked about a “new beginning.” They said the “New Deal” was out of date, that Keynesian economics was passé. Maybe so. But all this is true if we have good evidence, not because of age. If the New Deal is wrong, it is not wrong because it is old. Let us insist on straight thinking and make all our candidates give us relevant evidence for their ideas and programs.

Another fallacy that relates to time is one I would call *argumentum ad futuris*, an “argument to the future.” **You commit this error when you appeal to the future as proof of your assertions, to future research, future explorations, future discoveries, or future evidence.** The logical fault here is obvious: no one knows the future for sure. The unknown data of the future supports no position in particular, simply because it is unknown.

We should constantly remind the chronological snob that truth is not necessarily a function of age— either way, old or new. Truth is established by proper evidence, and *that* itself is a timeless truth.

NOTES

1. C. S. Lewis, *Surprised by Joy* (New York: Harcourt Brace, 1956), pp. 206-08.
2. G. K. Chesterton, *All Things Considered* (Folcroft, Pa.: Folcroft, 1973), p. 9.

11

Argument to the Man

Ordinarily you would not think that one could trust the devil's brother in anything, would you? But if the devil gave an argument that followed the proper rules of logic, the conclusion would be just as binding as if an angel had given the argument. The character of the person has no necessary connection to the soundness of his argument.

You commit *argumentum ad hominem* (an "argument to the man") when you abuse the person rather than attack his argument. The classic example of this fallacy occurred in a British law court.¹ As the defense attorney took the floor his partner handed him a note: "We have no case."

Abuse the plaintiff's attorney!" If you can not shake the argument, attack the man. Instead of facing the issue, which jurists call "*ad rem*," address the man, *ad hominem*.

When we say that the character of the person has no necessary relation to the soundness of his argument, the word "necessary" is important in this observation. In some discussions the character of the person may indeed be connected with the argument. Not every slur on a person's character is an instance of *ad hominem*. To be so, the slur must be irrelevant to the issue at hand. In a political campaign, for instance, the candidate's moral character is nearly always a relevant issue; we do not want dishonest political leaders in office. Likewise, a lawyer who attacks the testimony of courtroom witnesses by questioning their character or expertise is not necessarily guilty of *ad hominem*. We expect the attorney to probe into the integrity of a witness.

You *are* guilty of this error when you make an attack on a man's character that is irrelevant to the thing you really wish to destroy. In the election of 1884, the Republicans attacked Grover Cleveland because he had an illegitimate child, and that was OK because such conduct is of general interest when we elect a chief executive. But when they dramatized "Cleveland's bastard" in their attacks on Cleveland's tariff policy, they committed *ad hominem*. The child had nothing to do with the merits of tariff reduction.

In the election of 1956, Americans were worried about the health of President

Eisenhower. Was he healthy enough to serve another four years in the toughest job in the world? They had the same concerns with Franklin Roosevelt in 1944. But when FDR's enemies charged that a certain government policy was wrong because it originated with "that cripple in the White House," they were practicing a rather vicious kind of *ad hominem*.

Abe Lincoln was a sharp lawyer. He knew how to use *ad hominem* when he had no case. On one occasion he was losing a case when he noticed that his opponent was wearing a city slicker shirt of the 1840s, the kind that buttoned up the back. Lincoln knew that the frontiersmen of the jury would react to such a shirt, so he made this plea: "Gentlemen of the jury, because I have justice on my side, I am sure you will not be influenced by this gentleman's pretended knowledge of the law. Why, he doesn't even know which side of his shirt ought to be in front!" They say Abe won the case.²

Lincoln knew also how to spot *ad hominem* when it was used against him, and how to answer it. When the complaint came in that his favorite general, Ulysses S. Grant, was a drunkard, Abe retorted, "Please let me know what brand of whiskey he drinks. I want to get a barrel for each of my generals." Victory covers a lot of sins.

Many people have attacked the philosophy of Benedict Spinoza (1632-1677) by pointing to certain irrelevant aspects of his life—his renunciation of Judaism, his single life, and his various eccentricities. Those things have nothing to do with the truth or falsity of his philosophy. Peter

Abelard (1079-1142), the monk, committed fornication with Heloise, the nun, and many enemies jumped to the conclusion that his new philosophical position (“conceptualism”) was therefore tainted. But soon after Abelard, the saintly Thomas Aquinas took essentially the same position and folks realized that there was no logical connection between fornication and conceptualism.

One of the most famous cases of *ad hominem* in history was committed by Bishop Samuel Wilberforce in his discussion with Thomas Huxley over the theory of evolution. The debate took place at the British Association, June 30, 1860. After ridiculing Darwin’s theory for a while, Wilberforce turned to Huxley and asked him if it was through his grandfather or his grandmother that he claimed his descent from a monkey. Huxley replied in tones grave and quiet that he would not be ashamed to have a monkey for his ancestor but that he would “be ashamed to be connected with a man who used great gifts to obscure the truth.”³

Huxley’s reply is a good model for answering *ad hominem*. One should politely point out that the irrelevant remark has nothing to do with the issue and gently steer the discussion back to the essentials.

NOTES

1. Stuart Chase, *Guides to Straight Thinking, with Thirteen Common Fallacies* (New York: Harper & Row, 1956), p. 58.
 2. See Mary Alkus, *Coronet*, September 1953.
 3. William Irvine, *Apes, Angels, and Victorians: The Story of Darwin, Huxley, and Evolution* (New York: McGraw-Hill, 1972), pp. 6-7.
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12

Poisoning the Wells

How many times have you heard someone say, “Well, when I hear him say something like that, I just reply ‘You must consider the source.’” The implication of this cryptic remark is that the source of the remark is somehow tainted. **The person who argues in this fashion is committing the fallacy we call poisoning the wells.** This logical fault is similar to argumentum ad hominem, but here, instead of attacking the man personally, **you attack him as a source of unreliable evidence.** You commit this error when you discredit a source of evidence in advance, when you define the case so that contrary evidence is automatically precluded.

Although this logical mis-

take has been known for centuries, the particular expression, “**poisoning the wells,**” came out of a famous controversy of the last century, between two English theologians, Cardinal Henry Newman and Charles Kingsley. It seems that Kingsley made the unkind remark that a Roman Catholic priest could never have a high regard for truth. Newman protested that such a remark made it impossible for a Catholic priest to state his case. In such a situation he would be “hamstrung,” because nothing he could say would overcome the prejudicial starting point of the discussion. To assert that all Catholic priests have a low regard for truth is to poison the wells before the argument even begins.

The effectiveness of this trick in a discussion is more psychological than logical. If used skillfully, it forces an opponent to remain silent because to speak up would be to fall into the definition trap. A master propagandist can shut off rational discussion of an issue by intimidating those who might otherwise have spoken up for the other side.

A very subtle use of this fallacy occurs when a champion of psychoanalysis takes the platform. Since all human beings, we are told, have a deplorable tendency to rationalize and set up defense mechanisms, any vigorous criticism of psychoanalysis simply serves to illustrate the truth of the theory in the first place. Since the theory is based on the notion of “unconscious motives,” any opposition to the theory can be set aside as merely an example of unconscious motives.

However, that argument can become a two-edged sword. If my *criticism* of psychoanalysis is proof of my unconscious motives, then a *defense* of psychoanalysis is also an indication of unconscious motives. If all arguments are just rationalization, what does that do to the arguments for psychoanalysis? Naturally the man who defends the theory presumes that *he* is free of such limitations. Everyone else, of course, is guilty of rationalization. No theory can be reliable if it is impossible to see how it stacks up against contrary evidence. That would be like a prizefighter keeping his title by always refusing to fight any contenders.

Unfortunately, the lamentable practice of name-calling usually occurs when poisoning the wells is committed. When the military draft is discussed, for example, you may find the champion of the draft shouting, "Anyone who opposes conscription is a coward and a communist!" His opponent may reply in kind: "Anyone who favors military conscription is a fascist and a warmonger!" Such argumentation generates a lot of heat but very little light.

David Hume, the gifted philosopher, provides a classic example of poisoning the well in his campaign against Christianity. He drew up a set of historical canons that de facto ruled out evidence for miracles occurring in history. In sum, Hume said not to believe any account if the observer testified with passion and exaggeration, especially if the spirit of religion was mixed in with the testimony. The implication is that interest in religious events or

beliefs “poisoned the well” and rendered such testimony worthless.¹

Richard Whatley, Archbishop of Dublin, did a fine job of exposing the arbitrary quality of Hume’s canons in his famous brochure, *Historic Doubts Relative to Napoleon Buonaparte* (1819). Whatley showed that if you rigorously applied Hume’s canons to Napoleon, you would have to conclude that the great emperor never lived at all, that his entire career was one big tissue of lies and illusions. For example, nearly all the data we have on Napoleon came from just two sources: the French and the British. Now that is a problem— the French loved Napoleon and the British hated him! With such irrational passions mixed into the reporting how could we possibly have any reliable material about Napoleon?

What about politics? Far too often politicians try to intimidate the opposition by stating or implying that its position is something terrible, like “undemocratic” or “racist” or “unpatriotic.” More than once in our national history we have squelched needed criticism of our national policy by suggesting that “anyone who disagrees with me doesn’t have the real good of America at heart.”

When poisoning the wells occurs in an argument, private or public, we should point out immediately and clearly that the is trying to intimidate his opponent by name-calling or prejudicing the issue. We should “purify the well,” as it were, by asserting that water coming from the source must be presumed pure until proved dirty. And, as always, the burden of proof is on the one who asserts.

NOTE

1. Hume explained this position in several works, but see especially his *Enquiry Concerning Human Understanding*, ed. L. Selby-Bigge, 2d ed. (New York: Oxford U., 1902), chap. 10. (Original title: *Philosophical Essays Concerning Human Understanding*: 1748.)

13

Appeal to Pity

Clear thinking involves many things, but one of the most important things it involves is learning to control your emotions. Sometimes even the noble emotions like love, honor, courage, and kindness need to be carefully watched. You commit the fallacy of *argumentum ad misericordiam* (“**argument to pity**”) when you make an illicit appeal to the emotion of pity.

This technique of persuasion has long been a familiar practice of lawyers in the courtroom. It is usually employed by the attorney for the defense who ignores the facts of the case and plays on the heartstrings of the jury. For example, he may bring into the courtroom the bedraggled wife of

the defendant, followed by his seven pathetic, ragged children. He need not speak any words, for his "body language" says to the jury: "If you send my client to prison, you will make a widow of this poor woman and orphans of all these innocent children. What have these poor human beings done to deserve all this?"

Naturally, the prosecuting attorney will want to remind the jury that there is no necessary, logical connection between the deplorable state of the man's family and his guilt or the requirements of the law. The jury should not be blinded by the noble emotion of pity in such a case.

I was reminded of this fallacy in the summer of 1980 when Senator Edward Kennedy announced his candidacy for the presidency. One person with whom I spoke said, "I'm going to vote for Kennedy because I feel so sorry for him and his family. They've suffered so much over the last two decades." I responded that the suffering of the Kennedy family has no logical relation to the question of Kennedy's capacity to serve as President.

Several years ago, when the voting age was reduced to eighteen, the most frequent argument you heard in defense of this move went as follows: "Well, if we can send those poor boys to die on the battlefield at age eighteen, we should certainly allow them to vote, should we not? If they're old enough to fight, then they are old enough to vote, aren't they?"

No, not necessarily. You haven't established a necessary connection between the skills it takes to fight in battle and the skills it

takes to cast an intelligent vote. All you have done with this argument is to connect a feeling of sympathy with the policy you want approved.

To illustrate, some young people, even younger than eighteen, do all kinds of things that excite our admiration and pity: dig ditches, chop cotton, rise early to deliver papers, and so on. In some primitive cultures a young man of fourteen must allow hundreds of angry wasps to sting him on the chest for a solid hour to prove his manhood. We could just as well argue: "My, my, any young man who can do that deserves the right to vote!" Here again, you've made no logical connection between the deed that excites your admiration and the policy you want approved.

As a college professor, I have found that students are masters of appeal to pity, especially around examination time and around the end of the semester. A student will come to you and plead for you to change his grade from D to C. What evidence does he offer for this request? He's a good friend of the family; a failing grade will make him lose his scholarship; or, he had an important date the evening before the final. In other words, the reasons for the request are aimed at your heartstrings rather than your head.

Sympathy is a noble emotion and should govern much of our behavior, but we should never let it obscure the relevant facts in a case. Sometimes the truth must be seen in its naked clarity before proper action can be taken. Making a decision solely on sympathy or pity can lead to disaster. We

must always pose the question: "Is there a logical connection between the misery and the thing to be proved?"

14

Appeal to Force

When someone begins to make too much sense in a discussion you can always terminate the debate with a blow to the head. **You commit *ad baculum* when you substitute force, or the threat of force, for reason and evidence.** If your case has no evidence you may decide to remedy this deficiency by threats of force. Many a public speaker has penciled in the margin of his outline, “Weak point—shout here!”

Parents often commit this fallacy by substituting the threat of a spanking for good reasons. Of course, with young children who are incapable of critical thinking, this may be the only feasible course open to them. If the child can not un-

derstand the evidence, then the parent has an obligation to use his authority and rank to prevent something harmful from happening. But when children are old enough to critically evaluate evidence, it would be wrong for a parent to keep getting his way by mere force.

Employers of all kinds use this fallacy to end an unpleasant or embarrassing discussion with an employee. The employee may ask, "What evidence do you have for your position?" The employer will reply, "I'm the one who signs your paycheck," or "I'm the boss around here" or "I own this company," or "I have the power to fire you." This is no better than the robber who says, "I'm the one with the gun, Clyde!" Rank may have its privileges, but infallibility is not one of them. Even the boss should give adequate evidence for his allegations.

We should make a careful distinction between (1) using the club to get our way, and (2) using the club to prove our conclusions. You may be the boss and have the legitimate right, according to the rules of the institution, to decide what final course of action must be taken. The buck stops with you. This is not necessarily a fallacy. You commit appeal to force when you reach a conclusion with no evidence other than the assertion of your position as boss. Your conclusion does not follow just because you are the one with the power.

Nations use this fallacy. They do it, for example, when they engage in extensive military maneuvers near the border of a neighboring country in times of tension or during

diplomatic negotiations they want to influence. The Soviet Union frequently brandishes the club to intimidate its restless satellites, such as East Germany in 1953, Hungary in 1956, Czechoslovakia in 1968, and Poland in 1980.

Perhaps history's greatest practitioner of *argumentum ad baculum* was Adolph Hitler, chancellor of Nazi Germany. The Fuehrer never faced a Gordian knot he did not try to cut by sheer will power and force. All problems would yield to the mailed fist. To get his way he could scream, bluster, harangue, browbeat, and even chew the rug. Much of the time such behavior was mere playacting, but it still was very effective. One unfortunate recipient of Hitler's blustering fainted dead away under the psychic aggression.

One reason Hitler got away with so much in the 1930s was that he subtly held over the Allies the possibility of war if he did not get his way. He demanded the Germans in the Rhineland, in Austria, and in Czechoslovakia on the grounds that all Germans belonged in the Third Reich by the principle of self-determination. But if he had not gotten his way by appeal to this principle, he would have threatened to unleash the "dogs of war."

When institutions try to censure books and publications, the net result is similar to *ad baculum*. As Jean Jacques Rousseau used to say, "If you can't refute it, burn it!" That is, if you cannot answer it, destroy it, or prohibit it by law—place it on the index of forbidden books. In the long run it is a dangerous policy to tell people what they

can not read, for the vigorous intellects, like Aleksandr Solzhenitsyn, may eventually read it anyway and later come to despise the regime that tried to control their minds.

The best way to counter the appeal to force is to remind the person committing the fallacy that his position, power, and authority do not necessarily constitute evidence for his conclusions. Power corrupts. It corrupts thinking and logic as well as personality and character.

15

Appeal to the People

One could divide American political thought into two broad camps on the question of the status of the people—optimistic and pessimistic. The optimistic pole is illustrated by the old Latin proverb *vox populi, vox dei*, “the voice of the people is the Voice of God!” The negative pole is represented by Alexander Hamilton, who said to Thomas Jefferson, “Your people, sir, is a great beast!”¹

The logician must sympathize with Hamilton in this issue because one of the oldest and most prevalent logical fallacies is called *argumentum ad populum*, an “argument to the people.” You commit this fallacy when you argue a social or political issue, not on its merits, but with

an emotional appeal to a popular view or slogan. As Immanuel Kant said, "Seek not favor of the multitude; it is seldom got by honest and lawful means. But seek the testimony of the few and number not voices, but weigh them."²

Good advice— don't number voices but weigh them! As C. S. Lewis was fond of saying, counting noses may be a great method of running a government (even there it has limitations), but it is no necessary criterion for truth. Another name for *ad populum* could be "**Misuse of Democracy.**" If the majority thinks something is true, it must be true. If the majority is doing something, it should be done. The majority is reading this book, therefore it must be a good book. Non sequitur!

Nietzsche quipped that "public opinion is nothing but private laziness."³ *Ad populum* is a lazy way of thinking, a device to bypass independent reasoning. Let the people do your thinking for you. Just drift along with the popular current. Just react unthinkingly to some vague slogan. The story is told of a politician during the French Revolution who saw a mob surging down the street and exclaimed, "There go my people. I must catch up with them so I can lead them!"

H. L. Mencken would have said that most of American political history is an illustration of this fallacy with a special religious application.

"The custom of connecting purely political doctrines with pietistic concepts of an inflammable nature, then firmly set up by the skillful persuaders of the

mob, has never quite died out in the United States. There has not been a presidential contest since Jackson's day without its Armageddons, its marching of Christian soldiers, its crosses of gold, its crowns of thorns. The most successful American politicians, beginning with the anti-slavery agitators, have been those most adept at twisting the ancient quads and shibboleths of Puritanism to partisan uses. Every campaign that we have seen for eighty years has been, on each side, a pursuit of bugaboos, a denunciation of heresies, a snouting up of immoralities.⁴

I suggest we coin a new fallacy for modern times, "misuse of the media." It is similar to hasty generalization in that you commit it when you assume that something is more true, more good, or more beautiful simply because it is more newsworthy. One wit has already suggested a takeoff on Descartes' *cogito ergo sum* ("I think, therefore I exist") with *televisto ergo sum* ("I am televised, therefore I exist").

American history has a veritable horn of plenty when it comes to illustrations of *argumentum ad populum*. Let's look at just a few.

Politicians in the northeast have at certain times found it necessary to engage in a little ceremony called, "twisting the lion's tail." The lion in this case was England or, more accurately, the British Empire. Since the Irish dislike the British; since there are some crucial blocs of Irish voters in Boston and New York; and since their votes can often sway an election, it is mandatory for an am-

bitious politician to knock the British on occasion. It mattered little that such attacks had no substance or proof; politics required it, and the Irish loved it. Fortunately for us, the British always understood the situation and ignored most of these outbursts as “designed for internal consumption.”

Following the Civil War, the Republican party engaged in an execrable policy known as “waving the bloody shirt,”⁵ that is, appealing to the fears and prejudices of Northern peoples to make them vote Republican. (The origins of the expression “waving the bloody shirt” supposedly go back to an actual event in the House of Representatives when Benjamin Butler waved the blood-stained nightshirt of a carpetbagger who had been flogged by the Ku Klux Klan.) Although the Democrats of the North had been basically loyal during the Civil War, Republican politicians referred to them as the “party of secession” and the “party of the rebellion.” “Vote as you shot” was one of their favorite slogans. It would have been politically foolish to have a rational discussion of any substantial issue when one had such a handy emotional vote-getter at hand.

At the Democratic National Convention of 1896 William Jennings Bryan reached the peroration of a great oration with these ringing words: “You shall not press down upon the brow of labor this crown of thorn. You shall not crucify mankind upon a cross of gold.” The logician always feels a bit cruel when he has to dissect a beautiful speech, but conscience sometimes demands it. Bryan won the nomination but lost the election. It is

the considered opinion of most economists that his scheme—the free coinage of silver—was pure political hokum. Bryan put it across in this oration by appealing to two very popular symbols: (1) the noble working man, and (2) the crucifixion. When you put Christ and the proletariat together, that is a very powerful symbol!

Ever since 1933 the Democratic party has told the American electorate that it is the party of the people, the party of the workers, the party of the common man, while the Republicans are the party of big business. The party of the masses versus the party of the classes. This well-known dichotomy is probably a faulty dilemma. Both parties appeal to the masses and both parties enjoy the support of business. The fact is, no political party since Andrew Jackson wants to appear to be “against the people.” That would be political suicide in an age of universal suffrage. But both parties need to be careful of adopting a simplistic criterion to the effect that, “If the people want it, then it must be right.”

Consider what might have happened if you had taken a poll in Nazi Germany in 1941 on the question, “Should the Jews be eliminated?” What if you had gotten a majority of people to answer, “Yes”? Would that have proved anything? We now praise the minority in Germany who opposed the Nazis and tried to help the Jews.

Why do we now praise
the minority?

NOTES

1. Thomas Bailey and David Kennedy, *The American Pageant* (Lexington, Mass.: D.C. Heath, 1976), p. 140.
 2. Immanuel Kant, *The New Dictionary of Thoughts* (New York: Standard, 1955), p. 477.
 3. Friedrich Nietzsche, *Menschliches, Allzumenschliches*, number 482.
 4. See H. L. Mencken, "Puritanism as a Literary Force," in *A Book of Prefaces* (Garden City, N.Y.: Garden City, 1917), pp. 212-13.
 5. See Samuel Eliot Morison, *The Oxford History of the American People* (New York: Oxford U., 1965), p. 738.
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16

Appeal to Ignorance

Senator Joseph R. McCarthy of Wisconsin used many questionable tactics in his crusade against communists in the US government during the early 1950s. Some of them were so objectionable that his name has now been enshrined in a good English term “McCarthyism,” which the dictionary defines as, “a mid-twentieth-century political attitude characterized chiefly by opposition to elements held to be subversive and by the use of tactics involving personal attacks on individuals by means of widely publicized indiscriminate allegations especially on the basis of unsubstantiated charges.”¹

In 1950, when questioned about the fortieth name on a list of eighty-one

case histories that he claimed were of communists working for the State Department, McCarthy said, "I do not have much information on this except the general statement of the agency that there is nothing in the files to disprove his Communist connections."²

In the American and Western judicial tradition a man does not have to *disprove* an allegation that has not yet been proved against him. In a court of law we require the prosecution to offer evidence to establish guilt beyond reasonable doubt. It is not the responsibility of the accused to demonstrate his own innocence. In fact, the accused is accorded the privilege of remaining silent. **If you should suddenly shift the burden of proof by appeal to the ignorance of your opponent or the absence of his evidence as evidence for your own position, you would be committing the fallacy of *argumentum ad ignorantiam*, an "argument to ignorance."**

In all argumentation and debate it is important that we know where lies the burden of proof. In general, the burden of proof is on the person who asserts anything. You can not affirm something and then ask your opponent to offer the proof for it. He'll remind you that it is your duty to offer proof for your own assertions.

Appeal to ignorance often pops up in philosophical disputes. For example, naturalists or materialists will argue, "Well, since you can't really prove God, then naturalism wins by default." This idea of any theory "winning by default" is the essence of the logical error here. Maybe you win by default in tennis, but not in philosophy. This is a

fallacious argument for two reasons:

1. First, before you can win by default, you must prove that there are only two possible theories. There may be a third or fourth possibility. It would be silly for one combatant to shout, “I win!” when he had eliminated only one alternative theory and others were waiting to enter the contest. But the naturalist may object that we really have only two theories in this matter— theism and naturalism. Would not the failure of one establish the other?
2. No, because, second, even if we grant that we have only two theories, the failure to prove one does not prove the other, unless you have *some independent evidence* to support the remaining theory. If theism can not be proved, then it is possible that we should just suspend judgment, not opt for naturalism. The most you can conclude is that, at present, we have insufficient data for making a choice between the two.

Lately we have been disputing the question, Is there life on Mars? We sent a lot of sophisticated equipment there to gather data, and the results are still negative. So far, we have no decisive evidence that there is life on Mars. Should we go off, then, and dogmatically assert that Mars is lifeless? No, because there still could be life on Mars and we just have not discovered it yet. Proving the non-existence of something is always a sticky process; you would almost have to be omniscient to dogmatically exclude something from existence.

Norman Macbeth, an expert on jurisprudence, points out that many highly

trained scientists have a strange difficulty in recognizing the burden of proof when they argue for the doctrine of evolution. Many champions of evolution assume that because they believe creation has no scientific proof, evolution wins by default.

Macbeth points out, correctly, that when a man propounds a theory, he is obligated to support every link in the chain of his reasoning. Conversely, a critic or skeptic may peck away at any aspect of the theory, testing it for flaws. The critic is not obligated to set up any position of his own or offer any alternative theory. He may be purely negative if he wishes. "If a theory conflicts with the facts or with reason," writes Macbeth, "it is entitled to no respect Whether a better theory is offered, is irrelevant."³

Many Christians believe that the famous Shroud of Turin is the actual burial cloth that was wrapped around Jesus Christ after his crucifixion. They argue that it has all the earmarks of the crucifixion cloth. But, as the shroud enthusiast warms to his task, he may assert, "And you can't prove that it was *not* the burial cloth of Christ!" Perhaps not, but it is not I doing the asserting. The burden of proof is not on me but on the one affirming it.

We may protect ourselves against an argument to ignorance by keeping in mind two fundamental rules of polemics: (1) he who asserts must also prove, and (2) a lack of evidence for one side does not prove the opposite side of a question.

NOTES

1. *Webster's Seventh New Collegiate Dictionary*, rev. ed., s.v. "McCarthyism."
 2. Stuart Chase, *Guides to Straight Thinking, with Thirteen Common Fallacies* (New York: Harper & Row, 1956), p. 165.
 3. Norman Macbeth, *Darwin Retried: An Appeal to Reason* (Boston: Gambit, 1971), pp. 5-7.
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17

Special Pleading

The bad side of our human nature comes out in heated debate on critical issues. We tend to give our own case the best possible statement, buttressed by the best possible evidence. But we construct our opponent's case like a weak and fragile vase held together by the flimsiest possible cement. Then we sadistically smash the opposing position and gleefully watch the pieces rain on the ground.

This common human failing is the fallacy of *special pleading* or *neglected aspect*. **We commit this fallacy when we dramatize the material that confirms our position and ignore or belittle the material that disproves our position.** There

was once a landlord who proved to the building inspector that he was providing enough heat for the apartment he owned, but he always hung the thermometer on the radiator instead of the wall. That is *special pleading*.

A full, fair treatment of an issue does not require an endless parade of repetitious facts and figures. We cannot marshal every shred of evidence and every single argument on both sides of an issue. Within reasonable limitations, however, we can expect a person to present an issue by mentioning the counter-evidence as well as the evidence. This is especially true in a classroom when a teacher is treating an open question.

A witness in court, for example, takes an oath to tell the whole truth because partial truth can be very misleading. The omission of a single fact can lead to a totally erroneous conclusion. As an instance, following a terrible train wreck a certain brakeman testified at a hearing that he had signaled by vigorously waving his lantern. He gesticulated dramatically to the jury to prove his point. But after the questioning was over, he looked relieved and said, "Whew! I was afraid that other lawyer was going to ask me if the lantern was lighted!"

The Russian people were misled by a half-truth in 1968 when the results of the election in the United States were reported. I was in Moscow at the time and had just heard at the American embassy that Richard Nixon won with a little over 43 percent of the vote. But then near Red Square I saw a newspaper with the headline, "NIXON

IN— BUT ONLY 25 PERCENT BACK HIM.” I was so intrigued by the contradiction between the 43 percent and 25 percent that I purchased the paper to see what was wrong.

Down deep in the story I finally discovered the key to the mystery. It lay in this brief paragraph:

With the total number of Americans eligible to vote being 119 million, Mr. Nixon and Mr. Humphrey thus each had about a quarter of the votes of the electorate.

The paper said Nixon had only 25 percent, but it meant 25 percent of all the possible registered voters. Since not everyone went to the polls his 25 percent of the possible votes was really 43 percent of the actual votes cast. The person reading only the headline was badly misled about the size of Nixon’s victory. This is a fine illustration of the old saw that, “Figures don’t lie but liars sometimes figure.”

Sometimes an entire career can be summed up in the fallacy of special pleading. I am bold to suggest this very interpretation of the life of that brilliant French thinker, Francois Marie Arouet, known to history as Voltaire (1694-1778). Neglected aspect can be seen with special clarity in Voltaire’s attack on religion in general and on Christianity in particular.

Voltaire had a keen eye for anything he thought bizarre in the Bible and for anything irrational in church history. But he had little

sympathy or understanding for what was morally elevating in the Bible or in Christian ideals. From a psychological standpoint he overlooked the deeply satisfying aspects of Christian experience. From a historical standpoint he painted a very unbalanced picture of how the church has contributed to the life of Europe. Any student of history or psychology can see that Voltaire did a “knife job” on both Christianity and church history.

One can readily admit that (1) many religions have incorporated masses of fables and superstitions; (2) they have been believed by the weak and the ignorant; (3) they have been maintained by the enlightened for selfish political ends; (4) they have been abused by vested interests to oppose social reform and scientific progress. But does all this compel us to jump on Voltaire’s bandwagon and exclaim, “*Ecrasez l’infâme!*” (“Crush the infamous thing!”)? Hatred of organized religion became such an obsession with Voltaire that he used that catchword as a signature at times.¹ Is it possible that Voltaire omitted the positive case for religion?

A more modern critic of religion, Sigmund Freud, also committed special pleading when he attacked religion as a form of neurosis.² If the scientific method demands anything—and Freud desperately desired to make psychology scientific—it demands a fair view of all the available data. But Freud did not survey all the possible religious material when he attacked religion. As Elton Trueblood points out, Freud drew most of his illustrations from three types of religious experience: (1) the

pathological, (2) the primitive, and (3) the infantile.³

In short, Freud dramatized sick, old, and childish religion. What forms of religion did he neglect? Obviously, modern, healthy, and adult religion! If Freud had only looked around in his own time he would have found some sterling examples of Christian giants to study. It seems that he was so anxious to prove religion neurotic that he refused to examine people who displayed any other kind of religion. That is unworthy of a great thinker.

To avoid being victimized by special pleading we should cultivate the mental habit of being suspicious of one sided presentations. We should learn to ask, "And what are the arguments on the other side of this question?" or "Have you treated the problems that attend your position?"

NOTES

1. See Will and Ariel Durant, *The Age of Voltaire* (New York: Simon & Schuster, 1965), p. 738.
 2. See his *Future of an Illusion*, ed. James Strachey, trans. by W.D. Robson-Scott (New York: Doubleday, 1957).
 3. Elton Trueblood, *Philosophy of Religion* (New York: Harper, 1957), p. 184.
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18

The Fallacy of Extension

In the heat of controversy we are often tempted to paint our opponent's position in the worst possible light. This is called the *fallacy of extension*, because we "extend" our opponent's true belief into something more than it really is, and then attack our own extension. We exaggerate and caricature his position, and then attack and destroy the caricature, making our listeners think we have destroyed the original position. Such an extended and caricatured position we call a "straw man."

If a man takes a moderate position on an issue it is very easy to distort his belief so that it looks like one of the extremes on the right or left. He may believe in the right to fight but just opposes a particular war; in that case you accuse him of outright pacifism. If he is against the ERA, you can paint him as a flaming misogynist. If he opposes an extension of Social Security, you can say he is for euthanasia. If he is against gun control, you can claim he is an anarchist. If he opposes a particular program for minority jobs, you can make him into a racist.

Richard Nixon was a master at using extension and beating the straw man. This could be seen in his earliest political campaigns. If your opponent is to the left of you on the political spectrum, the most logical extension is to push him to the left and call him a socialist or communist. (If he is on your right you call him a fascist.) That is what Nixon did to Helen Douglas, as we see in this political ad:

The real import of the contest between Mr. Nixon and Helen Gahagen Douglas is whether America shall continue to tolerate COMMUNIST CONSPIRACIES within our borders and Government, persist in condoning BUREAUCRATIC PROF-LIGACY and appeasing TOTALITARIAN AGGRESSION, or whether America shall victoriously resist these deadly dangers.

In the presidential election of 1980, a good example of extension was Reagan's claim that the recession of 1980 was a *depression*, as Reagan called it, "Carter's depression." Most ec-

onomic analysts had called the 1980 downturn a *recession* since the unemployment rate was only at about 8 percent— far below the 30 percent we had during the Great Depression of the 1930s. There was no doubt that Reagan was politically wise to do this, since the word “depression” sounds much worse than “recession.” But that certainly qualifies as a case of extension.

On the other hand, President Carter claimed that Reagan would start a “massive nuclear arms race,” whereas all Reagan had asked for was “military superiority.” It does not follow that military superiority would necessarily lead to an arms race, but we note here also that it was very politically wise for Carter to make such a claim. The “Tolstoy Issue” (war and peace) was Carter’s most effective weapon against Reagan.

A final example: when the news broke in 1980 that the President’s brother, Billy Carter, had had some indiscreet dealings with the Libyans, many of the news services and Republican commentators began to speak of “Billygate.” Many claimed that Billy Carter’s peddling of influence was made possible by a brother who knew about his lawbreaking and would not stop it.

I seriously doubt if Billy Carter’s misbehavior ranks with Watergate in SQ (“scandal quotient”). We should stop this habit of tacking “gate” on the end of every scandal we wish to dramatize. This seems to be a clear case of the fallacy of extension. “Watergate” will probably keep first scandal prize for a long time to come.

The proper defense against extension is to restate and redefine carefully the true issue under discussion, making sure that it is not caricatured or blown up into another issue. A position stands or falls on its own merits, not those of its parody.

19

Fallacies of Causation

Reasoning about causation is the heart of the scientific method, indeed, the key to man's eternal quest to control his environment. Without it, we would still be in the Stone Age. Since causal reasoning is so vital, the fallacy associated with it is often deadly. When you infer a cause merely from a spatial and temporal association of things you commit *false cause* or *post hoc*.

Post hoc is short for *post hoc ergo propter hoc*— “after this, therefore, because of this.” **You commit this error when you conclude that B was caused by A simply because it was associated with A in time and/or space.** Suppose you are making marks on a piece of paper one night and notice that

every time you make a mark a car backfires outside your window. Should you conclude that marking a piece of paper causes cars to backfire? No. Most of us would just chalk it up to coincidence.

Recently the Internal Revenue Service supplied us with a classic example of *post hoc*. In 1978, the IRS threatened to cut off all federal funds to private schools in which enrollment had gone up right after a desegregation order in the surrounding area. The assumption was that any school that increased its enrollment just after a desegregation order had obviously picked up a lot of students from the “white flight.”

But that is precisely what the IRS has to prove, namely, that all enrollment increases are caused by white flight. As a matter of fact, private schools in this nation are growing rapidly for a variety of reasons— violence, drugs, low academic standards, and content of textual materials. What right does the IRS have to assume, without further proof, that all increases are caused by racial bigotry? Perhaps they can prove it is so, but they must provide better proof than the mere coincidence in time.

I would not be surprised if *post hoc* is the most prevalent logical fallacy in contemporary American politics. We in America have this ancient, unwritten “gentleman’s agreement” that whatever happens in a politician’s term of office must be blamed on the man and the party in power at the time. That may be gentlemanly of us, but it is not at all logical.

Herbert Hoover was

blamed for the Great Depression that began in 1929, but the root causes of that tragedy go back a long time before he became President in 1928. You could make a better case for blaming the Depression on some policies of the Republican party, but then you would have to mention the economic dislocations caused by the First World War to make the explanation complete.

For decades now the Democrats have been asserting that the Republicans are the “party of depression” and the Republicans have retorted that the Democrats are the “party of war.” The Republican charge has some interesting evidence in its favor:

In 1916, Woodrow Wilson got reelected on the slogan, “He kept us out of war.” In 1917, Wilson led us into war.

In 1940, Franklin Roosevelt told the American people, “Your boys are not going to be sent into any foreign wars.” In 1941, FDR led us into war.

In 1964, Lyndon Johnson tarred Barry Goldwater with the charge of war-mongering by using campaign ads showing a little girl picking daisies with a mushroom cloud in the background. In 1965, Johnson led us into war. A standard quip of the Goldwater supporters after the election was, “Well, they told me if I voted for Goldwater we would be bombing Vietnam in a year, so I voted for Goldwater and sure enough they were right!”

Now, just looking at this record superficially, one might conclude that when a

Democratic President tells you he is not leading the country into war, you can expect to be in a war the very next year! But if you will dig a little deeper than the surface you will probably conclude that all three cases are coincidences. Wilson, Roosevelt, and Johnson all three used the antiwar campaign to get elected. They knew it would win votes. Wilson was forced into war by the German submarine campaign. Roosevelt was forced into war by Pearl Harbor. Johnson felt he was forced into war by the Bay of Tonkin incident. None of that is good evidence for the slogan that the Democrats are the party of war. There is no good evidence, either, for the GOP being the party of depression. Both are examples of *post hoc*.

In the presidential election of 1980, the cause of inflation became a heated question. Carter, whose administration saw the inflation rate go from 4.8 percent to 12.7 percent, blamed the rise on things like OPEC and high living. Reagan replied that it was the government, not the people, that had been living too high. It would be fallacious to suppose that just because Carter was in the White House in this period that necessarily (that key word again!) something in his policy caused it. It is entirely possible that Carter was correct when he said that OPEC price increases were the root causes of the dramatic increase.

Perhaps we should reconsider our old gentleman's agreement on the use of this fallacy and confess ignorance on the precise causes of things until someone brings forth good, solid, decisive proof, one way or another.

In their reasoning about causes people often commit an error I shall dub *causal reductionism*. They ignore the existence of more than one cause of things. Aristotle was so impressed with the complexity of causation that he identified four different kinds of causes. Modern scientists use a distinction that is helpful in some cases: *necessary* and *sufficient* causes.

A *necessary* cause is any condition *without* which the effect will not occur, whereas a *sufficient* cause is a condition *with* which the effect will occur. A necessary cause can prevent the effect by its absence but can not, without a sufficient cause, cause the effect by its presence.

For example, suppose a room is full of sunlight and you ask, "What causes this illumination?" Your answer must be multi-causal. I can point you to a hole in the ceiling as a necessary condition for the illumination. But the sufficient cause is the sun shining through the hole. Now, the hole in the ceiling could prevent the light by its absence, but could not, without the sun, cause the light merely by its presence. At night the hole would not cause the room to be illuminated. We would say, in simple English, that the sun was the real cause of the light, and the hole was the necessary condition for the real cause achieving the result.

One can see from this example how wrong it would be to belittle the importance of a necessary cause. The hole in the ceiling may not be the *real* cause of the light, but just cover the hole and see if any light gets into the room! Life is

full of such cases in which the true or real cause of something is nevertheless crucially dependent on a necessary cause to achieve its results.

This distinction throws a great deal of light on the current social controversy over gun control. How are people killed? By guns or by people? The gun control forces say that guns kill people, but the National Rifle Association replies, "Guns don't kill people, people kill people!" In fact, both groups are correct. People are the sufficient cause, and guns are the necessary cause.

The NRA, which has a partial truth, should recognize, however, that controlling guns, especially handguns, can go a long way toward reducing the number of deaths by firearms. As we saw with the sunlight in the room, controlling the necessary cause can affect the sufficient cause. In the case of gun control, controlling the necessary cause could frustrate the sufficient cause, which is what we want to do.

But the gun control people, who also have a partial truth, must realize that manipulating the necessary cause, the availability of guns, does not really get to the root cause of killing. The root cause is man's nature, his perverse character, his antisocial urges. The root cause, to put it bluntly, is sin!

Christians use this multi-causal approach to harmonize the apparent contradiction between Paul and James. Paul claims that salvation is not by works (Ephesians 2:8; Romans 3:2), whereas James seems to contradict this by asserting

that faith without works is dead (James 2:20). Martin Luther called James “an epistle of straw” because it seemed to disagree with Paul’s doctrine of salvation by faith. But there is really no contradiction here if Paul was talking about the sufficient cause of salvation and James was talking about a necessary cause.

We can avoid causal reductionism by looking carefully at all the necessary and contributory causes of a complex event after we have correctly identified the sufficient cause.

20

Hypothesis Contrary to Fact

One of the oldest of the games people play is disputing “what might have been.” **When you take a “might have been,” a condition that never really existed, and make it a genuine premise in a serious argument, you have committed hypothesis contrary to fact.**

Years ago someone wrote a book entitled *The Ifs of History*. Each chapter was devoted to exploring what might have happened if what really happened had not taken place. Such material

makes interesting conversation over the dinner table, but it never leaves the realm of speculation to move into the realm of reality. An argument that begins and ends in a peradventure has, from a logical point of view, little to commend it.

Look at some illustrations of this fallacy. To all of the following examples one can only reply: "We simply don't know for sure."

1. If the Democrats had been in power in the 1920s, there would have been no Depression in the early 1930s. (You never know; the Democrats might have pursued the same unwise economic policies as the Republicans. After all, making money in a bull market was a bipartisan affair in those days.)
 2. If the Republicans had been in power between 1932 and 1944, the United States would not have been involved in World War II. (You never know; the Republicans might have gotten into war before the Democrats. They tended to be more realistic about human nature anyway; perhaps they would have seen through Hitler's bluff long before Roosevelt did. Pearl Harbor would have pushed any party into war.)
 3. If Hitler had died in infancy, there would have been no Third Reich and no Second World War. (You never know; some other charismatic reactionary might have taken over Germany during the Depression and started a very similar foreign policy. Fascism was very popular all over central Europe; in Germany, Italy, Austria, Spain, Hungary, and Romania.)
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4. If the United States had become part of the League of Nations in 1920 as Woodrow Wilson wanted, it would have prevented World War II. (Winston Churchill believed this, but you never know; maybe America would have been just as appeasement-oriented in the 1930s as Neville Chamberlain. The isolationist sentiment was so strong that America might have been just a nonfunctioning member.)

Committing hypothesis contrary to fact can sometimes cause unjustified guilt feelings. If you make a decision that leads to terrible consequences, it is easy to conclude that the situation would now be good if— if only you had not made that decision. When that happens to you, you must remind yourself that that is a *non sequitur*. It does not necessarily follow. Things might not be any better if you had not made that decision. No one is perfect; no one is omniscient. You should not blame yourself for a regrettable decision if at the time you followed the procedures of sound reasoning as best you knew.

We can avoid hypothesis contrary to fact if we will always qualify the conclusion with the proper expression indicating a mood of probability, such as “might have” or “possibly would have” or “probably would have.”

21

Cliché Thinking

Far too many of us are lazy thinkers and rely on canned maxims to make our decisions. Proverbs, maxims, aphorisms, and familiar quotations have special power to persuade us for a number of reasons: they are so pithy and terse, they often make a cute rhyme, they are easily remembered, and they have the prestige of age.

Using clichés in decision making, however, can be fraught with danger. In the first place, clichés are often expressed in figurative language, and hence have no precise meaning. “A bird in the hand is better than two in the bush,” is a difficult rule to translate into precise policy when you are trying to decide whether to sell some shares of

stock. The question is not whether you have “stock in hand,” but whether the old stock will do as well as some new stock you could buy.

In the second place, most clichés are guilty of over-simplification, and hence leave out the possibility of the opposite decision in some cases. For just about every cliché known to man you can think of an opposite, contradictory maxim. “Haste makes waste” is contradicted by “he who hesitates is lost.” In some cases “nothing ventured, nothing gained” is true, but in others it is “better to be safe than sorry.” A lazy thinker will tend to act on the first cliché that pops into his head without considering the real issue.

A good example of *cliché thinking* in American politics is the use of the proverb, “Don’t change horses in the middle of the stream.” This maxim is always employed to urge voters to continue an administration during a period of crisis. Lincoln used it in the Republican nominating convention of 1864. He remarked that he did not consider his nomination a sign that he was the greatest man in America, but that people had decided not to “swap horses while crossing the river.” Some researchers trace the first occurrence of the phrase to a newspaper in 1846.

The best known case of its use was by FDR in the campaigns of 1940 and 1944. The GOP party chairman, Joe Martin, remained convinced for years afterward that the unwillingness to shift leadership in a crisis was the root cause of the defeat of Wendell Wilkie in 1940. The fall of France

and the imminent danger to Great Britain filled the American people with a fear of switching administrations. Not even the issue of a third term for FDR could prevail against this fear of changing chief executives in a crisis.

One could easily agree that FDR should have been reelected in 1940— and even for the reason expressed in the cliché. But the reason was a good one even if there had been no cliché to express it. The reason makes the cliché appropriate, not the opposite. In 1944, however, I think the United States could easily have changed leaders without endangering the outcome of World War II. By then, FDR was too ill to govern effectively. He never should have gone to Yalta, February, 1945. He died just five months after reelection, April 12, 1945. When the horse is terminally ill, you might well contemplate changing horses in the middle of the stream.

Ironically, Roosevelt supporters had used this very point to defeat Herbert Hoover in the election of 1932. At that time, Hoover and his people were urging voters not to change horses in the middle of the stream, and FDR's supporters were pointing out the illogic of the proverb. The Democratic journal, *New Republic*, pictured the Republicans as suggesting that we "don't change barrels while going over Niagara." Other FDR supporters asserted bluntly: "Swap horses or drown!"¹

The remedy for cliché thinking is to strip the cliché of its persuasive language, demythologize it, and translate it into cold, logical, propositional language. "Silence is golden"

loses much of its charm if you express it as, "Saying nothing is the best thing to do." Far from being proof of anything, clichés turn out to be in need of proof themselves.

NOTE

1. See William Safire, *The New Language of Politics: An Anecdotal Dictionary of Catchwords, Slogans, and Political Usage* (New York: Random, 1968), p. 118.



Fallacies of Composition and Division

Geometry is widely considered as an exact discipline, yet one can get into trouble applying certain geometrical axioms simplistically to reality. For instance, we hear that “the whole is equal to the sum of its parts,” but that is not strictly true all of the time. **You commit the *fallacy of composition* when you assume uncritically that an organized whole retains the simple features of its parts.**

Even in geometry this er-

ror can occur. Take the simple example of three lines of equal length. If you laid three lines end to end you would have a straight line three times as long as the original line. But suppose you were to arrange those three lines in the form of a triangle. Could you really say that the whole, the triangle, is only a sum of its parts? Could you derive the concept of triangle from a single line or three single lines? No. In a real sense the triangle is more than the sum of three lines. Why? Because it represents three lines in a *specific patterned interaction*. It is the new pattern that imparts to the whole something not present in the parts.

If you knew nothing of water before I told you of its components—hydrogen and oxygen—you might be skeptical of the claim that water puts out fire. How could a gas and oxygen put out fire? The answer lies in the new entity you get with the precise combination of two elements, the specific patterned interaction of two parts hydrogen and one part oxygen.

Richard Bube states the rule well: “When parts interact after a pattern to form a whole, the whole frequently has a set of properties which are characteristic of this patterned interaction but not deducible directly from the parts that make up the whole, and which require description on a higher level.”¹

For instance, when two atoms form a molecule, the property of vibration comes into being because a single atom can not vibrate. When many atoms interact to form a solid crystal, the property of color comes into being because a single

atom can have no color. When nonliving matter interacts to form living matter, that living matter has properties qualitatively different from those of nonliving matter. When cells interact to form human beings, those human beings have traits qualitatively different from those of other animals. In each of those cases it would be reductive for you to assert that the higher entity was “nothing but” the sum of its parts.

To give some social examples, when two singles tennis champions get together they do not necessarily form a championship doubles team. Doubles is a different kind of game in many ways; it requires teamwork. When eleven championship football players are brought together they do not necessarily make a championship football team. Placing several great soloists in a single orchestra does not make for a great performance. People in organized groups do not necessarily think or behave as each person does by himself.

The *fallacy of division* is exactly the reverse of the *fallacy of composition*. Division is the assumption that what is true of an organized whole is necessarily true of each part. You may have an outstanding team without any individual stars, because a good coach can take several mediocre players and weld them into a good team.

You would be mistaken to conclude that a man is a good lawyer just because he belongs to a good law firm, or a good doctor just because he was associated with a great team of doctors at a certain clinic. A person is not necessarily autocratic because he lives in an autocratic country, nor is

he democratic because he lives in a democratic country.

Individuals who always complain about the “hypocrites” in Christian circles are committing the fallacy of division. They are assuming that since the group as a whole is dedicated to Jesus Christ, every single person in the group is also dedicated to Christ. All through history religious groups have had to point out that not all members are true to the faith, that a lot of nominal converts are in the ranks. As Paul told the readers of the Roman epistle, “THE NAME OF GOD IS BLASPHEMED AMONG THE GENTILES BECAUSE OF YOU” (Romans 2:24). Although Christianity has had the problem of hypocrites, their presence constitutes no necessary refutation of the teachings of Christ.

The fallacy of division has a particularly virulent form called “guilt by association.” During the Inquisition, the heretic was sometimes convicted, not on testimony about his own beliefs, but on the beliefs of his relatives. During the McCarthy era in America some officers of the armed services were discharged or denied commissions because of the alleged beliefs of their relatives. Some of those unfortunate people had mothers who had had leftist connections in the past.

We should note, in passing, that the opposite claim of “innocence by association” is equally fallacious. An accused person may defend himself by enumerating various important and respectable people who are his friends. An American judge put it aptly: “Before judging a man by his as-

sociates, remember that Judas Iscariot traveled in the best of company!"²

The careful thinker must learn to handle propositions about the parts and the whole very carefully, realizing that the whole is often more than the parts and that the parts do not always have all the characteristics of the whole.

NOTES

1. Richard Bube, *Human Quest: A New Look at Science and Christian Faith* (Waco, Tex.: Word, 1971), p. 142.
 2. Stuart Chase, *Guides to Straight Thinking, with Thirteen Common Fallacies* (New York: Harper & Row, 1956), p. 143.
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23

The Slippery Slope Fallacy

In the late 1960s people frequently opposed Medicare on the grounds that it was socialized medicine for the aged and would lead to socialized medicine for all, and then on to socialized insurance of all kinds, and then on to socialized steel, airlines, and railroads. People also argued that if you could justify socialized medicine for the aged, you could justify it for everyone and you could justify socialism for everything and so on down a “slippery slope” to complete socialism or communism.

This is an example of the *slippery slope fallacy*. **You commit this logical error when you reason that because X is wrong, therefore, Y is also wrong because Y is right next to X, and the table is slanted in the direction of Y to begin with.** Hence, if you permit X, you will someday inevitably have Y. The person making the argument usually assumes that we all agree Y is wrong. If Y is wrong, then anything that slants us toward Y is also wrong, or, at least, dangerous.

Members of the Texas State Legislature sometimes refer to this condition as “the camel’s nose in the tent.” Once the camel’s nose is in the tent, they argue, the rest of him will soon be in the tent also. That is not only the slippery slope fallacy, but it also is a misuse of analogy. It assumes that everything is unitary like a camel, which is hardly true when you are dealing with pieces of legislation.

The error here is to accept *without further argument* that your first step leads necessarily down the slippery slope. To sustain this argument you must prove two assumptions:

1. That the table is “slanted” to begin with (which is often just an ungrounded fear);
2. That the position under attack will necessarily slip down the slope (it might be securely tied down).

Sometimes in actual historical cases the first step stops right there and does not lead to any slip down the slope. In Great Britain, for instance, the installation of socialized medicine did not lead to full nationalization of all industries. In

the case of Medicare, we need further data and discussion to see if there is a danger of the slippery slope.

There is a variation of the slippery slope called the *domino theory*. Here one maintains that if we do *A*, it will cause a chain reaction with *B*, *C*, *D*, and so on, like a row of adjacent dominoes falling. Hence, we dare not let that first domino fall. That theory has recently been applied to the civil war in Nigeria and to the Vietnam War.

In the Nigeria-Biafra War, people insisted that we could not let Biafra break away from Nigeria because it would cause a chain reaction, and then every tribal group in Africa would secede from its parent state, resulting in a terrible case of continental anarchy. There was no good evidence for that fear. Wars of secession are usually caused by specific internal problems, not generic continental problems. Attempts at secession—whether successful or unsuccessful—do not always cause a chain reaction of such attempts.

In the case of Vietnam, people argued that if South Vietnam fell, it would cause all of Southeast Asia to go to the communists—Laos, Cambodia, Thailand, and eventually India, Australia, and Japan—not to mention San Francisco! Well, South Vietnam fell, and so far only Cambodia has fallen to the communists—a rather short chain, I would say.

Recent events in Poland have alarmed the Russians with the possibility of a slippery slope and a fall of the dominoes. If they al-

low certain liberal reforms in Poland, will not the other members of the Warsaw Pact soon be demanding similar reforms? Yes, probably, but not necessarily. Each country will have to be examined on its own merits to see if a slope really exists, and if it is truly slippery. East Germany, for example, has unique reasons to remain doggedly loyal to the USSR for many years to come.

As always in logic, we must ask not if a position is next to something wrong with a slippery tilt toward it. We must ask rather, "Does the position have any independent evidence of its own, regardless of the slopes and all that?" To reason any other way is to reason fallaciously.

24

Language Tricks

When I was in undergraduate school, the instructor was late for class one day, so I wrote the following syllogism on the board and started to leave:

1. All Greeks live in Europe.
2. Hardeman's lectures are Greek to me.
3. Therefore, Hardeman's lectures live in Europe, so I'm going to the student center because Europe is too far away.

Unfortunately, Hardeman met me at the door and refuted me. I had committed the *fallacy of equivocation*, one of the many language tricks that the rational person must avoid. **We make**

this error when we use a key word in an argument in two different senses. In the argument above, "Greek" refers to two different things: (1) an ethnic group, and (2) something hard to understand. Most equivocations are a bit more subtle than this, but as long as the equivocal shift in meaning goes undetected, the argument appears valid. When a careful definition of the ambiguous term is given, it becomes apparent that the conclusion does not follow. The above syllogism is also guilty of the four-terms fallacy. **The categorical syllogism must have only three terms.** Since the middle term ("Greek") is used in two senses, we actually have four terms.

Anatole Rapoport thought up this cute example:

1. Nothing is more important than life.
2. Holes in doughnuts are nothing.
3. Therefore, holes in doughnuts are more important than life.

Here we have a drastic change in the meaning of the word, "nothing." In the first premise it actually means *everything* in the sense that, "Life is more important than everything else." But in the second premise it means the traditional nothing, that is, a non-entity.

Great confusion entered into certain philosophical issues when European thinkers decided to use the same word "law" to refer to both (1) the command of a sovereign political authority, and (2) the generalization of a scientist. When we speak of the "laws of nature," we inject a large ele-

ment of ambiguity into the discussion because the so-called laws of nature are unlike laws of society in a number of crucial ways: they are descriptions, not prescriptions; they are discovered, not decreed; they are not enforced as are laws of society and they carry no implication of criminality for those who break them, if, indeed, they can be "broken" at all. Hence, David Hume's argument that miracles are impossible because they violate the laws of nature has most of the steam taken out of it.¹

The Oracle at Delphi exhorted King Croesus of Lydia (560-546 B.C.) to attack the Persian emperor Cyrus with the promise that if he launched the campaign, he would "destroy a mighty empire."² Well, Croesus destroyed an empire, sure enough, but it was his own empire! The Oracle had protected herself with some crafty doubletalk.

Another verbal trick that the careful thinker must recognize is *emotive language*, the use or abuse of positively or negatively charged emotional terms. Such terms are often mistaken for evidence. Students of semantics call such terms *purr* words or *snarl* words. Purr words arouse your positive emotions; snarl words arouse your negative emotions.

Human language is incredibly flexible, and we can see that clearly in the fact that almost any term can have three levels of meaning: (1) purr; (2) snarl; and (3) neutral. For example, the neutral term, "government official," can become "bureaucrat" if you wish to be defamatory, or "public servant" if you wish to be laudatory. The neu-

tral “domicile” can become a “shack” if you hate it, or a “mansion” if you love it.

Name-calling is a particularly caustic form of emotive language that always lowers the rational temperature in a discussion. Think of the SQ (“snarl quotient”) of such terms as “fascist pig,” “commie,” “red,” “pinko,” or “Bircher.” Name-calling commits at least three fallacies at once—emotive language, stereotyping, and *ad hominem*.

Karl Marx had a lamentable tendency to use name-calling and strong emotional terminology in putting down his enemies. Both Marx and Engels reveal in their letters a compulsion to “kill by epithet.” They often referred to opponents with such terms as swine, shark, imbecile, reactionary humbug, bombastic demagogue, ignorant louts, slaves of the bourgeoisie, and so forth.³ In *Das Kapital* Marx defined “capital” as “that dead labor that, vampire like, only lives by sucking living labor, and lives the more the more labor it sucks.”

Another language trick is *prestige jargon*, which is the error of trying to prove something by expressing it in complicated language. Your argument, for example, does not gain any strength if you say “suffering from circum-orbital haematoma” instead of “black eye.” Your teeth are not a bit different when you call them “mandibular masticators.” If you are bald it does not help the status of your head one whit to say that you “possess no follicle appendages on the cutaneous apex of the cranial structure.”

Yet it is amazing how

many people think that fancy, ornate, or complicated terminology makes something more true than just plain talk. The best answer to prestige jargon is what Charlie Brown shouts to Lucy “You’re not right, you just *sound* right!”

What if Jesus had been a compulsive word-monger trained in some of our law schools? Instead of the simple, “Give us this day our daily bread,” He might have commanded some monstrosity like this:

We do respectively petition, request, and entreat that due and adequate provision be made, this day and the date hereinafter subscribed, for the organizing of such methods of allocation and distribution as may be deemed necessary and proper to assure the reception by and for said petitioner of such quantities of baked cereal products as shall, in the judgment of the aforesaid petitioners, constitute a sufficient supply thereof.

When Jesus said to love your neighbor, a lawyer present asked him to clarify what he meant by *neighbor* (Luke 10:29). Perhaps the lawyer was looking for a precise legal definition that one might use in framing a law or statute. He probably wanted something like this:

A neighbor (hereinafter referred to as the party of the first part) is to be construed as meaning a person of Jewish descent whose legal residence is within a radius of no more than three statute miles from one’s own legal residence unless there is another person of Jewish descent (hereinafter referred to as the party of the second part) living closer to the party of

the first part than one is oneself, in which case the party of the second part is to be construed as neighbor to the party of the first part and one is oneself relieved of all responsibility of any sort or kind whatsoever.⁴

Whew! I am glad that Jesus did not give that definition of a neighbor. Instead, he told the parable of the Good Samaritan (Luke 10:25-37), which has become one of the great pieces of literature and moral instruction in human history. Luke does not tell us about the lawyer's response.

Very similar to prestige jargon is the use of the *euphemism*, which comes from the Greek meaning, "to sound good." Using euphemisms can be a language trick when you try to soften the impact of something by expressing it in a milder form. For example, "old folks" become "senior citizens," "garbage collectors" become "sanitation engineers," "tax increases" become "revenue enhancements," and "genocide" becomes "the final solution."

Of course, if you are trying to save the feelings of a person, then using a euphemism might be defensible. For example, you might say that a certain person has "passed away" rather than "died." But if your euphemism actually misleads or deceives someone, then you are reprehensible. For example, back in the Old West a man wanted to notify the family of the death of a member who had run afoul of the law and been hanged. After weeks of struggling with a way to break the news, he wrote: "It is with deep regret that I have to inform

you that your son died here recently while taking part in a public ceremony. The platform on which he was standing gave way.”

Whenever you hear a position expressed in complicated verbiage, just wait politely until the person is finished and then say, “Yes, that’s beautiful, but may we now get down to the evidence?”

NOTES

1. See his *Enquiry Concerning Human Understanding*, chap. 10.
 2. Herodotus, *Persian Wars*, Book I, chap. 71.
 3. See Harry Overstreet and Bonaro Overstreet, *What We Must Know about Communism* (New York: Norton, 1958), pp. 48-49.
 4. For this gem I am indebted to Frederick Buechner, *Wishful Thinking: A Theological ABC* (New York: Harper & Row, 1973), pp. 65-66.
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25

The Ultimate Fallacy

That indefatigable logician, Samuel Johnson, had the perfect reply to the man who has not yet been convinced by sufficient proof: “Sir,” he said, “I have found you an argument; but I am not obliged to find you an understanding”¹ As the old proverb has it, “you can lead a horse to water, but you can’t make him drink.”

The love of wisdom— the desire to believe and to act upon what is true— is a habit that requires cultivation. Sometimes an error or a lie can be just as satisfying as the truth. Error appeals to our natural perverseness. Even after we have learned about the many fallacies that people commonly commit, we must incessantly cultivate the *desire* to avoid error. We must develop intellectual honesty. Knowing fallacies is no guarantee to a life of wisdom

or reason.

The ultimate fallacy is not a logical but a moral error. We call it *pig-headedness*. **You commit it when you refuse to accept a proposition that has been proved by adequate evidence.** H. G. Wells felt that it was “in the power of scientists to produce a world encyclopedia for dissemination of their knowledge to all, which will compel men to come to terms with one another.”² We note here the naive conviction that *knowledge compels*.

Wells was wrong. **Knowledge does not compel.** Man can err even when he knows the truth. The main thing we learn from history is that we do not learn from history. The most that we can say for knowledge is that it makes error more reprehensible. If a man of knowledge nevertheless errs, he can no longer plead ignorance, can he? His mistake is all the more blameworthy when he knows better. Just as the theologian can speak of “willful sin,” so the logician can speak of “willful fallacies.”

Seldom do you find a man as honest as Aldous Huxley in admitting the “hidden persuaders” operating in his thinking. Read this confession:

I had motives for not wanting the world to have meaning; consequently assumed that it had none, and was able without any difficulty to find satisfying reasons for this assumption... For myself, as, no doubt, for most of my contemporaries, the philosophy of meaninglessness was essentially an instrument of liberation. The liberation we desired was simultane-

ously liberation from a certain political and economic system and liberation from a certain system of morality. We objected to the morality because it interfered with our sexual freedom.³

But **honesty is a moral value**, and this study does not propose to get into *axiology*, the study of values. **Logic and science cannot establish values, but they can help you reach the values you may have established by other means.**

I send this book out in the hope that those who already pay tribute to the virtue of intellectual honesty will be aided in their quest for a life of wisdom and right reason.

“He that will not reason is a bigot; he that cannot reason is a fool; and he that dares not reason is a slave.” (Sir William Drummond).

NOTES

1. James Boswell, *Life of Johnson*, 6 vols. (New York: Oxford U., 1970),4:313.
 2. A. J. Hoover, *Case for Christian Theism* (Grand Rapids: Baker, 1976), p. 261.
 3. Aldous Huxley, *Ends and Means: An Inquiry into the Nature of Ideas and into the Methods Employed for Their Realization* (New York: Harper & Row, 1937), pp. 312, 316.
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26

Summary of Fallacies

For your convenience, this chapter will give a short summary of all the fallacies we have covered in this book. It would be a good idea to learn both the Latin term along with the English (if the fallacy has both) because you never know when you might encounter the fallacy expressed in its Latin form.

1. **Contradictory Assumptions or Conflicting Propositions**— arguing a case that contains two or more propositions that could not possibly be true at the same time.
 2. **Hasty Generalization**— basing a general statement on too small a sample; building general rules from accidental or exceptional situations.
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3. **The Fallacy of the General Rule** (*dicto simpliciter*)— assuming that what is true in general, under normal conditions, is true under all circumstances without exception.
 4. **The Reductive Fallacy**— reducing a complex entity and attempting to explain it in terms of only one of its many aspects.
 5. **The Genetic Fallacy**— belittling or trying to refute something by pointing to its humble or inauspicious beginnings.
 6. **The Psychogenetic Fallacy**— assuming that you have refuted an idea just because you have discovered the psychological reason why someone believes in the idea.
 7. **Faulty Dilemma**— assuming that in a given situation there are only two alternatives when in fact there are more than two.
 8. **Argument of the Beard**— presuming that there is no real difference between the extremes on a continuum because the differences are small from one to the next and change almost imperceptibly.
 9. **Begging the Question** (*petitio principii*)— reasoning in a circle, using your conclusion as a premise, assuming the very thing to be proved as proof of itself.
 10. **Misuse of Authority**— attempting to prove a conclusion by appealing to a real or alleged authority in such a way that the conclusion does not necessarily follow.
 11. **Misuse of Analogy**— trying to prove something by
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improper use of a parallel case.

12. **Chronological Snobbery** (*argumentum ab annis*)— attempting to refute an idea merely by dating it, usually dating it very old.
 13. **Argument to the Future** (*argumentum ad futuris*)— trying to prove something by appealing to evidence that might be turned up in the (unknown) future.
 14. **Argument to the Man** (*argumentum ad hominem*)—attacking the personal shortcomings of the man making the argument rather than attacking the argument itself.
 15. **Poisoning the Wells**— attempting to refute an argument by discrediting in advance the source of the evidence for the argument.
 16. **Appeal to Pity** (*argumentum ad misericordiam*)— trying to establish a conclusion by making an illicit appeal to the emotion of pity.
 17. **Appeal to Force** (*argumentum ad baculum*)— substituting force or the threat of force for reason and evidence.
 18. **Appeal to the People** (*argumentum ad populum*)— trying to establish a position by appealing to popular sentiments instead of relevant evidence.
 19. **Appeal to Ignorance** (*argumentum ad ignorantiam*)— assuming that a position can win by default, that the failure to establish one position necessarily establishes the opposite position.
 20. **Special Pleading or Neglected Aspect**— em-
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phasizing the material that confirms your position while neglecting or even denying the material that militates against your position.

21. **The Fallacy of Extension**— to attack an exaggerated or caricatured version of your opponent’s position, i.e., to attack a “straw man.”
 22. **False Cause** (*post hoc*)— assuming that just because something follows something else in space and/or time that it was necessarily caused by it.
 23. **Causal Reductionism**— trying to explain a complex event by reference to only one kind of cause where in fact there are more.
 24. **Hypothesis Contrary to Fact**— arguing from “what might have been,” from a past hypothetical condition.
 25. **Cliché Thinking**— using as your evidence well-known maxims, proverbs, aphorisms, or wise sayings that often have exceptions and are often in need of proof themselves.
 26. **The Fallacy of Composition**— assuming uncritically that an organized whole retains the simple features of its constituent parts.
 27. **The Fallacy of Division**— assuming that what is true of an organized whole is necessarily true of each part.
 28. **The Slippery Slope Fallacy**— assuming that something is necessarily wrong just because it is right next to something that is wrong, or that it could possibly slide toward the thing that is wrong.
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29. **Language Tricks:**

- A. **Equivocation**— using a crucial word or term in an argument in two different sense.
 - B. **Emotive Language**— attempting to create a certain state of mind by using emotional terms in an improper way.
 - C. **Prestige Jargon**— trying to prove something merely by explaining it in complicated language.
30. **The Ultimate Fallacy: Pigheadedness**— refusing to accept a proposition even when it has been established by adequate evidence.
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Appendix 1

Exercise On Fallacies

The following examples of fallacies are obviously rather simple, but I am operating on the theory that this may be the first time the reader has ever used such material. In such a case, I feel it is better to start applying your new knowledge with problems that can be easily worked. Remember, however, that in most cases the logical fallacy is much more difficult to spot than in these examples.

1. We should not vote for fluoridation of water because Kleinfoos, who advocates it in his political platform, once was indicted for embezzlement.
 2. Furthermore, fluoride may be dangerous. We do not know it is not dangerous, so it must be dangerous.
 3. Future research will show that fluoride is dangerous to your health.
 4. Putting fluoride in the water would be just like adding aspirin to bread dough to fight pain. If people want fluoride in their drinking water, let them add it individually at home.
 5. You can be sure that if fluoride had been added to our water for centuries, the human race would not exist by now.
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6. It would be unwise to use fluoride because ancient wisdom tells us that, “It’s better to be safe than sorry,” and “Let sleeping dogs lie.”
 7. Fluoride causes indigestion. I remember a friend who had fluoride applied to his teeth, and the very next day his stomach was terribly upset.
 8. Fluoridation of our water is unwise because it’s foolish, stupid, and makes no sense.
 9. Fluoridation of our water is unwise because it’s so new. Have you ever heard of its use before?
 10. Several towns have already tried fluoridation and they say it doesn’t work. You want an example? Well, I have a friend from Ragtown who got a cavity last year.
 11. People don’t understand why they think they want fluoridation. When they were infants their mothers used to stir sugar into their water, and now they think they still have to add something to water to make life tolerable.
 12. If you vote for fluoridation I will set your house afire! That is the best argument I can give you against it!
 13. Jones would make a poor governor. How do I know? Because Dr. Smythe, an expert on medieval literature, affirmed that in a lecture the other day.
 14. You must be wrong about that because that is what folks in the Middle Ages believed, before science—even before Copernicus.
 15. A college is like a business. In a business the cus-
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tomer is always right. In a college, the students are the customers. So, students should be allowed to drop a course as late as they wish, decide whether to take it pass-fail or not, and bankrupt an entire semester of work.

16. If only my father had kept the mineral rights on that property we had in Utah— why, we would be rich today!
 17. During the rise of the Nazi Party in Germany (1929-33) the claim was often made that the German people had only two choices: Nazism or Communism.
 18. I don't care what chemists say. Water could not possibly be composed of hydrogen and oxygen because an analysis of water shows it puts out fire, and those two elements are conditions for fire to occur.
 19. Some animals on the borderline between plant and animal, like the tiny euglena, have features that characterize both plants and animals. Therefore, it is impossible to make any real distinction between plants and animals.
 20. The dean of a small college found it very interesting that every time there was a card game in Tom Carter's room, someone got thrown into the fountain the same night.
 21. Boy: "My love is like a lovely, sweet, fair, and healthy red rose." Girl: "Yes, and the rose always fades and withers. Therefore, your love will soon die."
 22. We can believe what it says in the company manual because the manual itself says that it is the official
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publication of the company.

23. "Better red than dead!"
 24. Manager: "You notice how the sales went up after we instituted our new advertising campaign. Our success is obvious."
 25. "The Inquisition must have been justified and beneficial, if whole peoples invoked and defended it, if men of the loftiest souls founded and created it severally and impartially, and its very adversaries applied it on their own account" (Benedetto Croce, *Philosophy of the Practical*, [New York: Biblio & Tannen, 1913]).
 26. When Secretary of Agriculture Earl Butz was forced to resign for telling offensive ethnic jokes, he was defended in these words: "Of course, it was improper and he should not have done it, but most of us are guilty of telling ethnic jokes at one time or another."
 27. A famous matador reasoned: "I am all for women having equal rights. But women should not fight bulls because a bullfighter is and should be a man."
 28. The Carters will not let Cathy stay out after ten on week nights, and even on weekends she has to be in by twelve. "This is a typical example of the puritanical attitude some parents have," complained Cathy's boyfriend.
 29. Rev. Johnson said in his sermon last Sunday that he didn't think a young man had to go around unshaved and dirty to prove his manhood. *I wonder why so many preachers are reactionaries*, thought one young man.
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30. In spite of all the alleged sightings, not a single flying saucer report has been confirmed. We may assume, therefore, that there are no such things as flying saucers.
 31. No, I'm not going to buy you an electric jigsaw. If I did, you would want a circular saw, and then a power drill, and soon you would want a whole workshop. We can not afford all that, and besides, we do not have room for it.
 32. He must be poor—he comes from one of the poorest communities in the state.
 33. I understand that Lomax is a practicing attorney. I don't want to put my case into the hands of a lawyer who still has to practice. I'd rather have a man who knows his business well enough that he no longer needs to practice.
 34. "Tex" Hogg, an old farmer from Dry County, Texas, was arrested today after confessing to the shooting of his wife, Margaret Ann. Asked why he shot his wife, Hogg explained, "Well, she fell and broke her leg. There was nothing left for me to do."
 35. A society must be a living organism because it is made up of human beings, each of whom is a living organism.
 36. "Is it not strange that wet England produced Shakespeare, wet Germany produced Schiller, wet America produced Lincoln, while dry Turkey has produced no great man since the wine-drinking Mohamet?" (From an anti-prohibition manual).
 37. If Newton had not discovered the law of gravity,
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some one else would have. If Darwin had not amassed evidence in favor of evolution, someone else would have. If Lindbergh had not flown to Paris, someone else would have. Who says the world could not get on without great men?

38. This event is so improbable that extremely good evidence is needed before you could believe it. And, it is unlikely that you can get reliable evidence, for who would trust people who believe such unlikely reports
 39. “What would our forefathers say to this proposal, sir? How does this suggestion tally with their institutions? Are we to put the wisdom of yesterday in competition with the wisdom of the centuries? Is youth to show no respect for the decisions of maturity? If this measure were sound, would it have been reserved for these times to discover it?”
 40. Can the scientific method give certainty? The best evidence that it can is the way in which views that were established by rational induction have swept over the world and gained ground everywhere, in spite of the severest opposition.
 41. In a particular town, prohibition threw 5,000 people out of work, deprived 2,000 landlords of their tenants, deprived the town of \$300,000 in excise and property taxes, and depreciated the rental value of \$5 million worth of property. Could the case for the repeal of prohibition be any stronger?
 42. From the fact that every man must die, can you argue that therefore human life will at some time disappear from the earth?
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43. The existence of a power above nature is implied in the phrase, "laws of nature," constantly used by scientists. For wherever there is a law, there is a lawgiver, and the lawgiver must be presumed capable of suspending the operation of the law.
 44. If the Franks under Charles the Hammer had not defeated the Saracens at the Battle of Tours (A.D. 732) we should all be polygamous Moslems today.
 45. "How can you argue that it is wrong for me to assist my friend to obtain office by offering financial considerations to voters that I know? Other politicians have their friends canvass for them. Do you not agree that it is right for a man to do what he can for a friend's good?"
 46. Q. How do you prevent an elephant from charging?
A. You take away his credit card!
 47. Adjustments in our moral standards with respect to premarital sexual relations are long overdue, because recent surveys show that the practice is widely adopted.
 48. The Communist system has worked quite well in Red China, as you can plainly see by the increase in literacy throughout the entire nation.
 49. Russia is a Communist country, so Mr. Petrov must be a Communist, since he is a Russian.
 50. Censorship ought to be abolished, since it violates the principle that everyone ought to be guaranteed the freedom of expression.
 51. Nature destroys the weak and the strong alone survive. So, too, a nation ought to purge itself of its
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weaker members.

52. Your arguments against my thesis that whatever we do is determined by the sex drive are themselves determined by the sex drive. Thus, they simply confirm rather than harm the position I am defending.
 53. God must not exist since His existence is denied by some of the finest minds of our country— Julian Huxley, Bertrand Russell, B.F. Skinner, Isaac Asimov, and many others.
 54. Evolution is an established fact, since it is widely accepted, and change is certainly not unestablished.
 55. Lawyer: “When you consider the anguish of the innocent wife and children, and the war record of the accused, I can only ask that the jury vote acquittal.”
 56. “*Der Mensch ist was er isst!*” Man is what he eats (Ludwig Feuerbach).
 57. What will you think when you cease to be?
 58. The paintings of Rembrandt are nothing but oil splashed on canvas.
 59. Just as exercise is good for the human body, it is also good for the body politic.
 60. The American students on our ship were a noisy bunch. I must conclude that American students always behave improperly.
 61. No one should even bother to listen to your arguments against inflation. Everyone knows that you are in business and stand to lose by wage increases.
 62. It is hard to make a value judgment whether some-
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one is either good or evil. People are strung out on a spectrum between those two poles. Maybe we should just suspend judgment.

63. My instructor gave me a *D+* just because I scored a 69 percent on the semester exam. Why did he have to drop me a whole letter grade because of one little point?

Appendix 2

Key To The Exercise On Fallacies

1. Ad Hominem
 2. Ad Ignorantiam
 3. Ad Futuris
 4. Misuse of Analogy
 5. Hypothesis Contrary to Fact
 6. Cliche Thinking
 7. Hasty Generalization
 8. Begging the Question
 9. Chronological Snobbery
 10. Hasty Generalization
 11. Psychogenetic
 12. Ad Baculum
 13. Misuse of Authority
 14. Chronological Snobbery
-

15. Misuse of Analogy
 16. Hypothesis Contrary to Fact
 17. Faulty Dilemma
 18. Composition
 19. Argument of the Beard
 20. Post hoc
 21. Misuse of Analogy
 22. Begging the Question
 23. Faulty Dilemma
 24. Post hoc
 25. Ad Populum
 26. Ad Populum
 27. Contradictory Propositions
 28. Emotive Language
 29. Emotive Language
 30. Ad Ignorantiam
 31. Slippery Slope
 32. Division
 33. Equivocation
 34. Misuse of Analogy
 35. Composition
 36. Misuse of Authority
 37. Hypothesis Contrary to Fact
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38. Poisoning the Wells
 39. Misuse of Authority and Chronological Snobbery
 40. Ad Populum
 41. Special Pleading
 42. Composition
 43. Misuse of Analogy
 44. Hypothesis Contrary to Fact
 45. Ad Populum and Dicto Simpliciter
 46. Equivocation
 47. Ad Populum
 48. Post hoc and Special Pleading
 49. Division
 50. Begging the Question
 51. Misuse of Analogy
 52. Psychogenetic
 53. Misuse of Authority
 54. Ad Populum and Ad Ignorantiam
 55. Ad Misericordiam
 56. Reductionism
 57. Contradictory Assumptions
 58. Reductionism
 59. Misuse of Analogy or Composition
 60. Hasty Generalization
-

61. Poisoning the Wells

62. Argument of the Beard

63. Argument of the Beard

Don't Get Caught!

Cliché thinking, overgeneralization, contradiction—such logic traps abound, but you can keep from falling into them! In *Don't You Believe It!* logic professor Arlie J. Hoover exposes such fallacies with entertaining humor, pointing the way to clear, critical thinking. Unlike anything you've ever read.

Arlie J. Hoover (B.A. University of Tampa; M.A. Ph.D., University of Texas) is professor of History at Abilene Christian University. Dr. Hoover is a prolific writer and has held numerous pastorates, lectureships and workshops.

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