

Fallacies

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4.1 What Is a Fallacy?

We all strive to reason correctly, so one of the central tasks of logic is to identify the ways in which we are tempted to reason *incorrectly*. We reason incorrectly when the premises of an argument fail to support its conclusion, and argument of that sort may be called fallacious. So in a very general sense, any error in reasoning is a fallacy.

Logicians, however, commonly use the term “fallacy” more narrowly, to designate not *any* errors in reasoning, but *typical* errors—mistakes in reasoning that exhibit a pattern that can be identified and named. The great logician Gottlob Frege observed that it is one of the logician’s tasks to “indicate the *pitfalls* laid by language in the way of the thinker.” In this book we use the term in this way.

In this narrower sense, each fallacy is a *type* of incorrect argument. Of course, many different arguments may make an error of some given type, that is, it may exhibit the *same kind of mistake* in reasoning. Any argument that does exhibit that kind of mistake is said to *commit* that fallacy. The particular argument that commits some known fallacy is commonly said to *be* a fallacy, because it is an individual example of that typical mistake.

To illustrate, if one accepts the premise that all science is essentially materialistic and then goes on to argue that Karl Marx, a very influential philosopher of the nineteenth century who was certainly a materialist, must therefore have been scientific, one reasons badly. It may indeed be true that Marx was scientific (as he claimed to be), but it does not *follow* from the fact that he was a materialist (which he certainly was) that he was scientific. The bad reasoning here is fallacious. If every P is a Q, it does not follow from the fact that one is a

Q that he is a P. All dogs are mammals, but not every mammal is a dog. We identify here a *pattern* of mistake; it is a very common mistake that we will explore in detail in Chapter 8. Because that pattern of error, or fallacy, appears in many different contexts, we flag it, and we warn against it by giving it a name: “the fallacy of affirming the consequent.” The argument concerning Karl Marx is a fallacy because it *commits* that fallacy, and the fallacy it commits is the fallacy of affirming the consequent.

In this illustration the mistake that has been made is called a *formal* fallacy; it is a pattern of mistake that appears in deductive arguments of a certain specifiable form. There are other formal fallacies, and we shall examine them in Chapter 8. Most fallacies, however, are not formal but *informal*: They are patterns of mistake that are made in the everyday uses of language. Informal fallacies, which we examine very closely in this chapter, arise from confusions concerning the *content* of the language used. There is no limit to the variety of forms in which that content may appear, and thus informal fallacies are often more difficult to detect than formal ones. It is language that deceives us here; we may be tricked by inferences that seem plausible on the surface but are in fact not warranted. Such traps, the “pitfalls” that language sets, can be avoided if the *patterns* of those mistakes are well understood. We devote considerable attention to these informal fallacies—the kinds of mistakes made in everyday speaking and writing, and commonly encountered, for example, in the “letters to the editor” in daily newspapers. These are the logical mistakes that we will name and explain.

Because language is slippery and imprecise, we must be cautious in this enterprise. Of course we must be careful not to make the mistakes in question, but we must also be careful to refrain from accusing others of making mistakes when they do not really do so. If we encounter an argument that appears to be fallacious, we must ask ourselves what really was meant by terms being used. The accusation of fallacy is sometimes unjustly leveled at a passage intended by its author to make a point that the critic has missed—perhaps even to make a joke. As we identify and classify the patterns of mistake in spoken and written language, we must try to penetrate the language used. Our logical standards should be high, but our application of those standards to arguments in ordinary life should also be generous and fair.

4.2 Classification of Fallacies

Informal fallacies are numerous and can therefore be best understood if they are grouped into categories, each with clearly identifiable features. This classification of fallacies is a controversial matter in logic. There is no one correct taxonomy of fallacies. Logicians have proposed lists of fallacies that vary greatly in length; different sets have been specified, and different names have

been given to both the sets and the individual fallacies. Any classification of the kind that will follow here is bound to be arbitrary in some degree. Our aim is to provide a comprehensive scheme within which the most common informal fallacies can be helpfully identified—and avoided.

The outline of this classification appears immediately below. After presenting it, we will examine each group, and each individual fallacy, in detail.

- **Fallacies of relevance.** Fallacies of relevance are the most numerous and the most frequently encountered. In these fallacies, *the premises of the argument are simply not relevant to the conclusion*. However, because they are made to appear to be relevant, they may deceive. We will distinguish and discuss:
 - R1: The appeal to emotion
 - R2: The red herring
 - R3: The straw man
 - R4: The attack on the person
 - R5: The appeal to force
 - R6: Missing the point (irrelevant conclusion)
- **Fallacies of defective induction.** In fallacies of defective deduction, which are also common, the mistake arises from the fact that *the premises of the argument, although relevant to the conclusion, are so weak and ineffective that relying on them is a blunder*. We will distinguish and discuss:
 - The argument from ignorance
 - The appeal to inappropriate authority
 - False cause
 - Hasty generalization
- **Fallacies of presumption.** In fallacies of presumption, *too much is assumed in the premises*. The inference to the conclusion depends mistakenly on these unwarranted assumptions. We will distinguish and discuss:
 - Accident
 - Complex question
 - Begging the question
- **Fallacies of ambiguity.** The incorrect reasoning in fallacies of ambiguity arises from the *equivocal use of words or phrases*. Some word or phrase in one part of the argument has a meaning different from that of the same word or phrase in another part of the argument. We will distinguish and discuss:
 - Equivocation
 - Amphiboly

4.3

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R1. THE APPEAL TO EMOTION

The argument appeals to emotion, yet it is not relevant to the conclusion. It is a fallacy (the writer) may be an enthusiast, which it is not. It is a fallacy (Hitler, who was an example of emotion) is a fallacy (disreputable) is a fallacy (scoundrel).

The premises of the argument are not relevant to the conclusion. The argument is a fallacy (portable).

- Accent
- Composition
- Division

Which of all these fallacies is actually committed by a specific passage is often disputable. The mistake that is made in a given argument might be construed in different ways and thus might reasonably be viewed as an instance of more than one fallacy. Once again, in the realm of natural language, context is critical, and much depends on reasonable interpretation.¹

4.3 Fallacies of Relevance

Fallacies of relevance are bald mistakes; they might better be called fallacies of *irrelevance*, because they arise when there is no real connection between the premises and the conclusion of an argument. Because that connection is missing, the premises offered cannot possibly establish the truth of the conclusion. Of course, the premises may still be *psychologically* relevant to the conclusion. The mistake arises when some emotive features of language are used to support the truth of a claim for which no objective reasons have been given. We use the modern names of these fallacies here, but many of them have traditional names as well (usually in Latin), which we will also note. Six fallacies of relevance are of principal interest.

R1. THE APPEAL TO EMOTION (ARGUMENT AD POPULUM)

The argument *ad populum* ("to the populace") is baldest of all fallacies, and yet it is one of the most common. It is the instrument on which every demagogue and propagandist relies—an appeal to the emotions of the audience. It is a fallacy because, instead of evidence and rational argument, the speaker (or writer) relies on expressive language and other devices calculated to excite enthusiasm for or against some cause. Patriotism is one common cause about which it is easy to stir emotions, and we know that terrible abuses and injustices have been perpetrated in the name of patriotism. The oratory of Adolph Hitler, whipping up the racist enthusiasms of his German listeners, is a classic example. Love of country is an honorable emotion, but the appeal to that emotion in order to manipulate and mislead one's audience is intellectually disreputable. "Patriotism," Samuel Johnson observed, "is the last refuge of a scoundrel."

The patriotic argument may be used when the national cause is good, and the argument's author is no scoundrel. An emotional defense of belief lacks intellectual merit, but the conclusion of that bad argument may perhaps be supportable by other premises of a more rational sort. Still, offered as the premises

of an argument, sheer emotion is fallacious. On 23 March 1775 the Virginia House of Burgesses passed a resolution delivering Virginia's troops to the Revolutionary War. The House was spurred to adopt this resolution by an oration whose emotional content has rarely been exceeded. Patrick Henry concluded this famous speech with the following appeal:

... if we mean not basely to abandon the noble struggle in which we have been so long engaged, and which we have pledged ourselves never to abandon until the glorious object of our contest shall be obtained—we must fight! I repeat it, sir, we must fight! An appeal to arms and to the God of hosts is all that is left to us. . . . There is no retreat but in submission and slavery! Our chains are forged! Their clanking may be heard on the plains of Boston! . . . Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it, Almighty God! I know not what course others may take; but as for me, give me liberty or give me death!

It is reported that the crowd, upon hearing his speech, jumped up and shouted: "To arms! To arms!"

A qualification may be in order here. If the passions of the speaker are used to convince his listeners that some beliefs are true, the argument is indeed fallacious. But if the speaker and his listener are in complete agreement in their beliefs, and the speaker aims only to spur his listeners to act in support of those mutual beliefs, the emotion he exhibits may serve a useful purpose. There is a distinction to be drawn between emotions used improperly as premises in argument and emotions used reasonably as triggers for appropriate conduct. However, this distinction will always be problematic because, when the speaker succeeds in spurring to action, it may be said that he has relied on emotion to convince his audience of the truth of some claim—the claim that now is the time to act, or the claim that the way to act in pursuit of the common goal is his way. In controversy, in deciding what conduct is appropriate, the appeal to emotion is unavoidably troubling.

The heaviest reliance on arguments *ad populum* is to be found in commercial advertising, where its use has been elevated almost to the status of a fine art. The products advertised are associated, explicitly or slyly, with things that we yearn for or that excite us favorably. Breakfast cereal is associated with trim youthfulness, athletic prowess, and vibrant good health; whiskey is associated with luxury and achievement, and beer with high adventure; the automobile is associated with romance, riches, and sex. The men depicted using the advertised product are generally handsome and distinguished, the women sophisticated and charming—or hardly dressed at all. So clever and persistent are the ballyhoo artists of our time that we are all influenced to some degree, in spite of our resolution to resist. Almost every imaginable device may be used to command our attention, even to penetrate our

subconscious thoughts. We are manipulated by relentless appeals to emotion of every kind.

Of course, the mere association of some product with an agreeable feeling or satisfying emotion is by itself no argument at all. But when such associations are systematically impressed on us, there usually is an argument *ad populum* lurking not far below the surface. It is suggested that the product—some beer perhaps, or some perfume, or some brand of jeans—is sexy, or is associated with wealth, or power, or some other admired characteristic, and therefore we, in purchasing it, will acquire some of that same merit.

One variety of this bad argument is particularly crass because it suggests no more than that one is well advised to buy (or join, or support, etc.) simply because that is what everyone else is doing. Some call this the “bandwagon fallacy,” from the known phenomenon that, in an exciting campaign, many will be anxious to “jump on the bandwagon”—to do what others do because so many others are doing it. Brazen examples of this bandwagon fallacy are common in the public media; here, for example, are the exact words of a recent advertisement on ABC TV:

Why are so many people attracted to the Pontiac Grand Prix? It could be that so many people are attracted to the Grand Prix because—so many people are attracted to the Grand Prix!

This is the essence of an appeal to the populace.

Playing on the emotions of the general population is pernicious in the context of public polling. Those who are conducting the poll, if they are unscrupulous, may frame questions in ways designed to get the responses they seek, by using words or phrases with known emotive impact. Or, if used without design but carelessly, some words may have an impact that will vitiate the poll results. In serious survey research, therefore, questions will be worded with the very greatest care, avoiding terms that are emotionally loaded, to preserve the integrity of the poll results. It is sometimes difficult to avoid all emotional taint. Many Americans support “affirmative action,” viewing it as a policy designed to treat minorities fairly. But many Americans also oppose “racial preferences” in college admissions or in employment. The outcome of any random poll on this topic will depend critically on which set of words—“affirmative action” or “racial preference”—is used in the questions asked.

When results using different words conflict, it may be said that importantly different questions had been asked. Perhaps. This is a perennial problem in survey research. In *argument*, however, the logical point remains very important: A conclusion defended with premises that are directed mainly at emotions is a fallacious argument *ad populum*.

Another variety of the appeal to emotion that appears with great frequency is also often given its own name: argument *ad misericordiam*. The Latin word *misericordiam* literally means "merciful heart"; this fallacy is the emotional appeal to pity.*

Pity is often an admirable human response. Justice, it is wisely said, should be tempered with mercy. Surely there are many situations in which leniency in punishment is justified by the special circumstances of the offender. In such situations—in the sentencing phase of a trial, for example—the identification of those circumstances and the reasons they might apply to a criminal already convicted are appropriately put before the court. That is no fallacy. It would be a fallacy, however, if such considerations were registered in the effort to cause a jury to acquit a defendant who is indeed guilty of the acts with which he or she is charged. When the premises (or intimated premises) of an argument boil down to no more than an appeal to the merciful heart, the argument is plainly *ad populum*, and fallacious. What is special about this variety is only that the emotions appealed to are of a particular kind: generosity and mercy.

In civil suits, when attorneys are seeking compensatory damages for the injuries suffered by their clients, there is often an effort to rely implicitly on the appeal to pity. The cause of the injury may be described as a faceless and unfeeling corporate juggernaut; or the injured party may be presented as the helpless victim of an uncaring bureaucracy or an incompetent professional. The miseries of the client's continuing disability may be depicted in some heart-rending way. The injured plaintiff may make it a point to limp painfully into the courtroom. A study by the Harvard School of Public Health has pretty well proved that the appeal to pity really works. When doctors are sued for malpractice, this study shows, the size of the monetary award to successful plaintiffs depends much more on the nature of the disability they suffered than on whether it could be shown that the doctor accused had in fact done anything wrong.²

In criminal trials, the sympathies of the jury plainly have no bearing on the guilt or innocence of the accused, but an appeal to those sympathies may nevertheless be made. Such an appeal may be made obliquely. At his trial in Athens, Socrates referred with disdain to other defendants who had appeared before their juries accompanied by their children and families, seeking acquittal by evoking pity. Socrates continued:

I, who am probably in danger of my life, will do none of these things. The contrast may occur to [each juror's] mind, and he may be set against me, and vote in anger

*Some logicians give special names to other clusters of fallacious emotional appeals. Thus one might also distinguish the appeal to envy (*ad invidiam*), the appeal to fear (*ad metum*), the appeal to hatred (*ad odium*), and the appeal to pride (*ad superbium*). In all of these, the underlying mistake is the argument's reliance on feelings as premises.

because he is displeased at me on this account. Now if there be such a person among you—mind, I do not say that there is—to him I may fairly reply: My friend, I am a man, and like other men, a creature of flesh and blood, and not “of wood or stone” as Homer says; and I have a family, yes, and sons, O Athenians, three in number, one almost a man, and two others who are still young; and yet I will not bring any of them here to petition you for acquittal.³

There are many ways to pull heartstrings. Although it is often successful, the appeal to pity is an obvious fallacy, ridiculed in the story of the trial of a youth accused of the murder of his mother and father with an ax. Confronted with overwhelming proof of his guilt, his attorney pleads for leniency on the grounds that his client is now an orphan!

R2. THE RED HERRING

The *red herring* is a fallacious argument whose effectiveness lies in *distraction*. Attention is deflected; readers or listeners are drawn to some aspect of the topic under discussion by which they are led away from the issue that had been the focus of the discussion. They are urged to attend to some observation or some claim that may be associated with the topic, but that is not relevant to the truth of what had originally been in dispute. A red herring has been drawn across the track.

This fallacy has a fascinating history. The phrase is believed to have been derived from the practice of those who tried to save a fox being hunted by leaving a misleading trail of scent (a smoked herring is very smelly and does become dark red) that would be likely to distract or confuse the dogs in hot pursuit. In many contexts, any *deliberately misleading trail* is commonly called a red herring. Especially in literature, and above all in suspense or detective stories, it is not rare for some character or event to be introduced deliberately to mislead the investigators (and the readers) and thus to add to the excitement and complexity of the plot. An ulterior political motivation may be suggested, a sexual scandal may be intimated—whatever can put the reader off the track may serve as a red herring. In the very popular novel and film, *The DaVinci Code*,⁴ one of the characters, a Catholic bishop, enters the plot in ways that very cleverly mislead. His name is the author’s joke: Bishop Aringarosa—meaning “red herring” in Italian.*

Fallacious arguments use this technique in various ways. The opponents of an appropriate tax measure may call attention to a new and appealing way in which funds can be raised by state-sponsored gambling. A defense of the prosperity produced by an economic system may be deflected by vigorously condemning the economic inequality that system permits. Economic inequality

*And in the world of finance, a prospectus issued to attract investors in a company about to go public, which tells much about the company but not the price of its shares, is also called a red herring.

may well be excessive or unfair, but if most of the members of a community are reasonably well off, that fact is not disproved by the reality of the enormous gap between the moderate wealth of most and the great wealth of some.

The distinguished political columnist David Broder has observed that in recent discussions of U.S. foreign policy in the Middle East, it has been the policy of some to urge that a show of military strength is a necessary element of our international posture. As Broder points out, however, it is a "rhetorical trick" to respond, whenever there is criticism of military expansion, that "its critics are soft on terror."⁵ A classical red herring.

Another recent example arose during debate in Congress over legislation originally designed to oblige corporations to protect the accumulated funds that had been set aside for the pensions of their employees. One legislator, apparently seeking to protect his corporate donors, entered the debate with the irrelevant point that there is a serious need for the provision of better advice to retired persons on the investment of their pensions. No doubt there is. But one commentator astutely observed, "What does this have to do with employers squandering their workers' retirement? It's a red herring. . . . Mr. Smith's herring replaces a major national scandal with a minor scandal, in an attractive rhetorical wrapping."⁶

Again: At Duke University in 2006, three student athletes were indicted for rape; the indictments were plainly unfounded and soon withdrawn. When the prosecutor was charged with misconduct in office, feelings at the university grew intense. One member of the Duke faculty, writing in the local newspaper, defended the prosecutor and some other faculty members who had supported him. In the course of this defense she argued that the real "social disaster" in the Duke rape case was that "18 percent of the American population lives below the poverty line," and that we do not have "national health care or affordable childcare." That herring was bright red.⁷

R3. THE STRAW MAN

It is very much easier to win a fight against a person made of straw than against one made of flesh and blood. If one argues against some view by presenting an opponent's position as one that is easily torn apart, the argument is fallacious, of course. Such an argument commits the fallacy of the *straw man*.

One may view this fallacy as a variety of the red herring, because it also introduces a distraction from the real dispute. In this case, however, the distraction is of a particular kind: It is an effort to shift the conflict from its original complexity into a different conflict, between parties other than those originally in dispute. So common is this variety of distraction that the pattern of argument that relies on it has long carried its own name: the straw man argument.

In controversies of a moral or a political nature, a successful argument almost invariably requires some reasonable and nuanced distinctions, and

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perhaps also some narrowly described exceptions. The extreme position in any dispute—the claim that conduct of a certain kind is *always* wrong, or *always* justified—is likely to be difficult if not impossible to defend. Therefore it is often a fallacious device to contend that what one aims to defeat is indefensible because it is categorical or absolute. Victory may be achieved over this fictitious opponent, but one will have destroyed only a straw man.

One who urges the enlargement of the authority of some central administration may be fallaciously accused of seeking to transform the state into a “big brother” whose reach will extend into every corner of citizens’ private lives. Such a “big brother” is likely to be no more than a straw man. One who urges the devolution of authority from central to more local governments may be portrayed, with similar fallacy, as the enemy of an efficient and effective administration—and that, too, is likely to be a straw man. In general, straw man arguments often take the form of supposing that the position under attack adopts the most extreme view possible—that *every* act or policy of a certain kind is to be rejected. The argument is easy to win, but its premises are not relevant to the conclusion that was originally proposed. The straw man argument often presents a genuine objection or criticism, and the objection may be sound, but it is aimed at a new and irrelevant target.

Straw man arguments present a special risk to their proponents. If, in controversy, a critic depicts her opponents in a way that is clearly more extreme and more unreasonable than is justifiable in the light of what they had written or said, readers or members of the audience are likely to recognize the exaggeration and to respond in a way quite opposite to what was hoped for. Readers (or listeners) may sense the unreasonableness of the portrayal and be offended by the unfairness. Even further, the readers or listeners, recognizing the distortion, may be caused by its unfairness to move intellectually to the side of the party that has been misrepresented, formulating in their own minds the response that may justly be made to the fallacious attack. Neutral persons who were to be persuaded may be thus transformed, by unfair fallacious argument, into adversaries. Every fallacious argument presents some risk of this kind; the fallacy of the straw man invites it with special force.

R4. ARGUMENT AGAINST THE PERSON (ARGUMENT *AD HOMINEM*)

Of all the fallacies of irrelevance, the argument against the person, or *ad hominem*, is among the most pernicious. Such arguments are common, as many fallacies are. But these, in addition to being unfair to the adversary (as straw man arguments are also) are hurtful, often inflicting serious personal damage without any opportunity for the fallacy to be exposed or its author chastised.

The phrase *ad hominem* translates as "against the person." An *ad hominem* argument is one in which the thrust is directed, not at a conclusion, but at some person who defends the conclusion in dispute. This personalized attack might be conducted in either of two different ways, for which reason we distinguish two major forms of the argument *ad hominem*: the *abusive* and the *circumstantial*.

A. Argument *ad hominem*, Abusive

One is tempted, in heated argument, to disparage the character of one's opponents, to deny their intelligence or reasonableness, to question their understanding, or their seriousness, or even their integrity. But the character of an adversary is logically irrelevant to the truth or falsity of what that person asserts, or to the correctness of the reasoning employed. A proposal may be attacked as unworthy because it is supported by "radicals," or by "reactionaries," but such allegations, even when plausible, are not relevant to the merit of the proposal itself.

Personal abuse can be psychologically persuasive, however, because it may induce strong disapproval of some advocate, and by unjustifiable extension in the mind of the hearer, disapproval of what had been advocated. For example, Judge Constance Baker Motley, long active in the civil rights movement, defends affirmative action with an *ad hominem* attack on its critics. She writes:

Those who resist [affirmative action programs] deny that they are racists, but the truth is that their real motivation is racism, a belief in the inherent inferiority of African-Americans and people of mixed racial backgrounds.⁸

However, the merits (or demerits) of arguments about affirmative action are not illuminated by denigrating the character of those who take the side one rejects.

Ad hominem abusive has many variations. The opponent may be reviled (and his claims held unworthy) because he is of a certain religious or political persuasion: a "Papist" or an "atheist," a member of the "radical right" or the "loony left," or the like. A conclusion may be condemned because it has been defended by persons believed to be of bad character, or because its advocate has been closely associated with those of bad character. Socrates was convicted of impiety partly because of his long association with persons known to have been disloyal to Athens and rapacious in conduct. And very recently, when Clyde Collins Snow was called a racist because of the conclusions he reached as a forensic scientist, he replied as follows:

My work devoted to the investigation of the disappearance, torture, and extrajudicial execution of human rights victims in many countries has often made me the target of public criticism and official outrage. To date, however, none of my critics has called me a racist. Among my detractors have been apologists for the brutal military junta in Argentina, representatives of General Pinochet's military in Chile,

the Guatemalan Defense Minister, and Serbian government spokesmen. Thus Mr. Goodman [Snow's accuser] finds himself in interesting company.⁹

The accusation of *guilt by association* is a common form of *ad hominem* abuse.

B. Argument *ad hominem*, Circumstantial

The circumstances of one who makes (or rejects) some claim have no more bearing on the truth of what is claimed than does his character. The mistake made in the *circumstantial* form of the *ad hominem* fallacy is to treat those personal circumstances as the premise of an opposing argument.

Thus it may be argued fallaciously that *consistency* obliges an opponent to accept (or reject) some conclusion merely because of that person's employment, or nationality, or political affiliation, or other circumstances. It may be unfairly suggested that a member of the clergy must accept a given proposition because its denial would be incompatible with the Scriptures. Or it may be claimed that political candidates must support a given policy because it is explicitly propounded in the platform of their party. Such argument is irrelevant to the *truth* of the proposition in question; it simply urges that some persons' circumstances require its acceptance. Hunters, accused of the needless slaughter of unoffending animals, sometimes reply by noting that their critics eat the flesh of harmless cattle. Such a reply is plainly *ad hominem*: The fact that the critic eats meat does not even begin to prove that it is right for the hunter to kill animals for amusement.

When the circumstances of the speaker are used not merely as grounds for attack—suggesting a foolish inconsistency or the like—but used rather in a plainly negative spirit, a special name is given to such *ad hominem* arguments. They are called by their traditional Latin name, *tu quoque*. This Latin expression does not translate simply, but it means, in essence, "You're another," or more loosely, "Look who's talking." The substance of the fallacy is to contend that you (the first party) are just as bad as I am, just as guilty of whatever it is that you complained about. But of course that response is not a refutation of the original complaint. It may be true that the first party is guilty of the conduct in question, but calling that guilt to attention does not support the innocence of the second party, which is the issue in the argument at hand.

An illustration will be helpful. A correspondent for CNN interviewed Osama bin Laden, leader of the terrorist organization Al Queda, some years ago in Afghanistan. The exchange went like this:

Cliff Arnett (CNN): The United States government says that you are still funding military training camps here in Afghanistan for militant, Islamic fighters and that you're a sponsor of international terrorism. . . . Are these accusations true?

Osama bin Laden: . . . At the time that they condemn any Muslim leader who calls for his rights, they receive the highest official of the Irish Republican Army at the White House as a political leader. Wherever we look we find the U.S. as the leader of terrorism and crime in the world. The U.S. does not consider it a terrorist act to throw atomic bombs at nations thousands of miles away. . . . The U.S. does not consider it terrorism when hundreds of thousands of our sons and brothers in Iraq die for lack of food or medicine. So there is no basis for what the U.S. says.¹⁰

How the United States conducts its international relations is rightly open to criticism—but whatever may be true about that behavior, attacking it is no response to the allegation of Al Queda terrorism. This is a classic *tu quoque*.

The circumstances of an opponent are not properly the issue in serious argument. It is the substance of what is claimed, or denied, that must be addressed. It is true that highlighting one's opponent's circumstances may prove rhetorically effective in winning assent, or in persuading others, but the effectiveness of this device does not make up for its error. Arguments of this kind are fallacious.

Circumstantial *ad hominem* arguments are sometimes used to suggest that the opponents' conclusion should be rejected because their judgment is warped, dictated by their special situation rather than by reasoning or evidence. However, an argument that is favorable to some group deserves discussion on its merits; it is fallacious to attack it simply on the ground that it is presented by a member of that group and is therefore self-serving. The arguments in favor of a protective tariff (for example) may be bad, but they are not bad because they are presented by a manufacturer who benefits from such tariffs.

One argument of this kind, called **poisoning the well**, is particularly perverse. The incident that gave rise to the name illustrates the argument forcefully. The British novelist and Protestant clergyman Charles Kingsley, attacking the famous Catholic intellectual John Henry Cardinal Newman, argued thus: Cardinal Newman's claims were not to be trusted because, as a Roman Catholic priest (Kingsley alleged), Newman's first loyalty was not to the truth. Newman countered that this *ad hominem* attack made it impossible for him, and indeed for all Catholics, to advance their arguments, because anything they might say to defend themselves would then be undermined by others' alleging that, after all, truth was not their first concern. Kingsley, said Cardinal Newman, had "poisoned the well of discourse."

Between the abusive and the circumstantial varieties of argument *ad hominem* there is a clear connection: The circumstantial may be regarded as a

special case of the abusive. When a circumstantial *ad hominem* argument explicitly or implicitly charges the opponents with *inconsistency* (among their beliefs, or between what they profess and what they practice), that is clearly one kind of abuse. When a circumstantial *ad hominem* argument charges the opponents with a lack of trustworthiness by virtue of group membership, that is an accusation of *prejudice* in defense of self-interest and is clearly also an abuse.

An important qualification is called for at this point. *Ad hominem* arguments are fallacious (and often unfair to the adversary) because an attack against some person is generally not relevant to the objective merits of the argument that person has put forward. However, there are some circumstances in which it is indeed reasonable to raise doubts about some conclusion by *impeaching the testimony* of one who makes a claim that would (if true) support the conclusion in question. In courtroom proceedings, for example, it is acceptable, and often effective, to call a jury's attention to the unreliability of a witness, and by so doing to undermine the claims upheld by the testimony of that witness. This may be done by exhibiting contradictions in the testimony given, showing that at least some of what has been asserted must be false. It may be done by showing (not merely asserting) that the witness lied—an abusive but in this context appropriate counterargument. Testimony may also be undermined by exhibiting the great benefits that would accrue to the witness from the acceptance of his testimony—impeaching by circumstance. These are, strictly speaking, *ad hominem* considerations, and yet they are not fallacious because of the special context in which those assertions are being put forward, and because of the agreed-upon rules for the evaluation of conflicting witnesses.

Even in these special circumstances, an attack on the person of the witness does not establish the *falsehood* of what had been asserted. Revealing a pattern of past dishonesty or duplicity, or showing an inconsistency with testimony earlier given, may cast justifiable doubt on the reliability of the speaker, but the truth or falsity of the factual claim made can be established only with evidence that bears directly on that claim, and not merely on some person who denies or asserts it. In each case we must ask: Is the attack on the person relevant to the truth of what is at issue? When, as commonly occurs, the attack is *not* relevant to the merits of the claim, the *ad hominem* argument is indeed fallacious.

R5. THE APPEAL TO FORCE (ARGUMENT *AD BACULUM*)

It seems odd to suppose that one could hope to establish some proposition as true, or persuade some other person of its truth, by resorting to force. Threats or strong-arm methods to coerce one's opponents can hardly be considered arguments at all. Traditionally, a category of fallacies of this kind has been identified as the *appeal to force* or the argument *ad baculum* (the appeal *ad baculum*

means literally appeal to the stick!), and it surely is clear that however expedient force may prove to be, it cannot replace rational methods of argument. "Might makes right" is not a subtle principle, and we all reject it.

The force threatened need not be physical, of course. In 2000, two professors of law at Boise State University published (in a law journal of the University of Denver) an article that was harshly critical of the Boise Cascade Corporation, one of the world's largest producers of paper and wood products. Subsequently, the university issued a formal "errata" notice that "this article has been retracted for its lack of scholarship and false content."

Why did the university retract the article? Did Boise Cascade threaten the university with a lawsuit? "Well," said the university's general counsel, "'threaten' is an interesting word. Let's just say they pointed out that the objections they raised did rise to the level of being actionable." The university, it turns out, had received a highlighted copy of the article in question from the general counsel of Boise Cascade, together with a letter saying, "I have been advised to proceed with litigation against Denver University if any of these highlighted areas are republished by Denver University in any form."¹¹

There are some circumstances in which threats may be introduced with more subtlety, and in such circumstances we may say that something like an argument—a plainly fallacious argument, to be sure—has been presented. What is put forward may be a veiled threat, or a proposition that suggests some danger if the proposition in question is not given full assent. It may be that certain *behaviors* are of importance, whatever may be doubted or believed. To illustrate, when the U.S. attorney general in the administration of President Ronald Reagan was under strong attack in the press for misconduct, the White House chief of staff at the time, Howard Baker, opened one meeting of his staff by saying:

The President continues to have confidence in the Attorney General and I have confidence in the Attorney General and you ought to have confidence in the Attorney General, because we work for the President and because that's the way things are. And if anyone has a different view of that, or any different motive, ambition, or intention, he can tell me about it because we're going to have to discuss your status.¹²

One might say that nobody is fooled by an argument of this sort; the threatened party may *behave* appropriately but need not, in the end, accept the *truth* of the conclusion being insisted on. To this it was answered, by representatives of twentieth-century Italian fascism, that real persuasion can come through many different instruments, of which reason is one and the blackjack is another. But once the opponent is truly persuaded, they held, the instrument of persuasion may be forgotten. That fascist view appears to guide many of the governments of the globe to this day; but the argument

ad baculum—reliance on the club, or on the threat of force in any form—is by reason unacceptable. The appeal to force is the abandonment of reason.

R6. MISSING THE POINT (*IGNORATIO ELENCHI*)*

Among the fallacies of relevance, the final category to be identified is perhaps the most difficult to describe with precision. It arises when the argument goes awry—when, on close examination, there is a “disconnect” between the premises and the conclusion. The twist may on occasion be an instrument of deliberate deception, but more often the fallacy is the product of sloppy thinking, a confusion in reasoning that the author of the argument herself does not fully recognize, or grasp.

Aristotle, the first to give a systematic classification of the informal fallacies, explains the fallacy we call *missing the point*, or *ignoratio elenchi*, as a *mistake* that is made in seeking to refute another’s argument. The Latin word *elenchi* is derived from a Greek word that means a disproof, or a refutation. An *ignoratio elenchi* is a *mistaken refutation*, one that goes haywire because the person presenting it does not fully understand the proposition in dispute. He refutes, or tries to refute, a claim other than that which was originally at issue. *He misses the point.*

As an example, suppose that one person emphasizes how important it is to increase funding for the public schools. His opponent responds by insisting that a child’s education involves much more than schooling and gets underway long before her formal schooling begins. That assertion is entirely reasonable, of course, but it misses the point of what was said earlier. One party presents an argument for P, to alleviate the need for funds; his interlocutor counters with an irrelevant Q, about the importance of preschool education.

Or suppose that some very controversial amendment to the tax code is proposed—say, the elimination of inheritance taxes. Such taxes, it is argued, are not fair because the money in the estate of a deceased person was already taxed at the time it was earned—and therefore to tax it again upon the person’s death is to tax the same funds twice. But, responds the supporter of the tax, inheritance taxes are imposed only on large estates that can well afford the tax; and furthermore (the advocate of the tax continues), our government needs that money. This response is an *ignoratio elenchi*. The inheritance tax may certainly be defended, but the size of estates taxed and the need for the resulting funds misses the point of the argument that had been put forward: the claim of unfair double taxation. Similarly, in a controversy over a new and very expensive

*A variety of alternative names have been applied to this category, including *irrelevant conclusion* and *mistaken refutation*.

weapons system for the military, criticized (let us suppose) for its doubtful practicality and enormous expense, the premises of an argument offered in support of the new weapons will miss the point if they do no more than underscore the pressing need for strong national defense. Objectives stated in general terms—national security, a balanced budget—are easy to endorse; the difficult questions in dispute are likely to be whether some particular proposed measure (a particular weapon system, a particular tax) will in fact promote the end sought, and whether it is likely to do so as effectively and efficiently as its alternatives. Bypassing the hard questions by emphasizing our agreement on easy generalizations about larger objectives commits the *ignoratio elenchi*: It misses the point.

There is a sense in which every fallacy of irrelevance is an *ignoratio elenchi*, because in all these fallacies there is a gap between the premises and the conclusion. Premises that are not relevant—red herrings, straw men, personal attacks—all miss the point. That is true. But we reserve this name for those fallacies of irrelevance that do not fit into other categories. The *ignoratio elenchi* is, we may say, a catchall class of fallacies: fallacies in which the premises simply fail to connect to the intended conclusion with the coherence that rational argument requires.

There is another expression with similar breadth and flexibility, the widely used phrase *non sequitur*. Its meaning is “does not follow”: A *non sequitur* is an argument in which the conclusion simply does not follow from the premises. Thus every fallacy is, in that general sense, also a *non sequitur*. As a candidate for the presidency of the United States in 2000, George W. Bush indicated that he was planning to grant a reprieve (under his authority as the governor of Texas) to a man who had been convicted of murder and was scheduled for execution. Why, he was asked, did he telegraph his intention before announcing his formal decision? He replied:

I believe this is a case where it's important for me to send a signal about what I may do because it's a case where we're dealing with a man's innocence or guilt.¹³

The term *non sequitur* is most commonly applied when the failure of the argument is obvious, when the gap between the premises and the conclusion is painfully wide. “A great, rough *non sequitur*,” Abraham Lincoln observed in a speech in 1854, “was sometimes twice as dangerous as a well polished fallacy.”¹⁴

And yet there are times when what appears at first to be a *non sequitur* will be seen upon reflection not to be one. Consider this report of a historic “legal fiasco.”

The prisoner pleaded guilty. He then said he had made a mistake, and the judge allowed him to change his plea to not guilty. The case was tried. The jury acquitted. “Prisoner,” said Mr. Justice Hawkins, “a few minutes ago you said you were a thief. Now the jury say you are a liar. Consequently you are discharged.”¹⁵

OVERVIEW

Fallacies of Relevance

R1. The Appeal to Emotion (*ad populum*)

An informal fallacy committed when the support offered for some conclusion is an inappropriate appeal to the emotions—patriotism, pity, or the like—of the listeners.

R2. The Red Herring

An informal fallacy committed when some distraction is used to mislead and confuse.

R3. The Straw Man

An informal fallacy committed when the position of one's opponent is misrepresented and that distorted position is made the object of attack.

R4. Argument Against the Person (*ad hominem*)

An informal fallacy committed when, rather than attacking the substance of some position, one attacks the person of its advocate, either abusively or as a consequence of his or her special circumstances.

R5. Appeal to Force (*ad baculum*)

An informal fallacy committed when force, or the threat of force, is relied on to win consent.

R6. Missing the Point (*ignoratio elenchi*)

An informal fallacy committed when one refutes, not the thesis one's interlocutor is advancing, but some different thesis that one mistakenly imputes to him or her.

EXERCISES

A. Identify and explain the fallacies of relevance in the following passages.

1. If you can't blame the English language and your own is unforgivingly precise, blame the microphone. That was the route Jacques Chirac took after his nuclear remark about a nuclear Iran. "Having one or perhaps a second bomb a little later, well, that's not very dangerous," Mr. Chirac said with a shrug. The press was summoned back for a re-take. "I should rather have paid attention to what I was saying and understood that perhaps I was on the record," Mr. Chirac offered, as if the record rather than the remark were the issue.

—Stacy Schiff, "Slip Sliding Away," *The New York Times*, 2 February 2007

2. Nietzsche was personally more philosophical than his philosophy. His talk about power, harshness, and superb immorality was the hobby of a harmless young scholar and constitutional invalid.

—George Santayana, *Egotism in German Philosophy*, 1915

3. Like an armed warrior, like a plumed knight, James G. Blaine marched down the halls of the American Congress and threw his shining lances full and fair against the brazen foreheads of every defamer of his country and maligner of its honor.

For the Republican party to desert this gallant man now is worse than if an army should desert their general upon the field of battle.

—Robert G. Ingersoll, nominating speech at the Republican National Convention, 1876

4. However, it matters very little now what the king of England either says or does; he hath wickedly broken through every moral and human obligation, trampled nature and conscience beneath his feet, and by a steady and constitutional spirit of insolence and cruelty procured for himself an universal hatred.

—Thomas Paine, *Common Sense*, 1776

5. This embarrassing volume is an out-and-out partisan screed made up of illogical arguments, distorted and cherry-picked information, ridiculous generalizations and nutty asides. It's a nasty stewpot of intellectually untenable premises and irresponsible speculation that frequently reads like a "Saturday Night Live" parody of the crackpot right.

—Michiko Kakutani, "Dispatch from Gomorrah, Savaging the Cultural Left," *The New York Times*, 6 February 2007.

6. I was seven years old when the first election campaign which I can remember took place in my district. At that time we still had no political parties, so the announcement of this campaign was received with very little interest. But popular feeling ran high when it was disclosed that one of the candidates was "the Prince." There was no need to add Christian and surname to realize which Prince was meant. He was the owner of the great estate formed by the arbitrary occupation of the vast tracts of land reclaimed in the previous century from the Lake of Fucino. About eight thousand families (that is, the majority of the local population) are still employed today in cultivating the estate's fourteen thousand hectares. The Prince was deigning to solicit "his" families for their vote so that he could become their deputy in parliament. The agents of the estate, who were working for the Prince, talked in impeccably liberal phrases: "Naturally," said they, "naturally, no one

will be forced to vote for the Prince, that's understood; in the same way that no one, naturally, can force the Prince to allow people who don't vote for him to work on his land. This is the period of real liberty for everybody; you're free, and so is the Prince." The announcement of these "liberal" principles produced general and understandable consternation among the peasants. For, as may easily be guessed, the Prince was the most hated person in our part of the country.

—Ignazio Silone, *The God That Failed*, 1949

7. According to R. Grunberger, author of *A Social History of the Third Reich*, Nazi publishers used to send the following notice to German readers who let their subscriptions lapse: "Our paper certainly deserves the support of every German. We shall continue to forward copies of it to you, and hope that you will not want to expose yourself to unfortunate consequences in the case of cancellation."
8. In *While Europe Slept: How Radical Islam Is Destroying the West from Within* (2006), Bruce Bawer argues that "by appeasing a totalitarian [Muslim] ideology Europe is "imperiling its liberty." Political correctness, he writes, is keeping Europeans from defending themselves, resulting in "its self-destructive passivity, softness toward tyranny, its reflexive inclination to appease." A review of the book in *The Economist* observes that Mr. Bawer "weakens his argument by casting too wide a net," and another reviewer, Imam Fatih Alev, says of Bawer's view that "it is a constructed idea that there is this very severe difference between Western values and Muslim values."

—"Clash Between European and Islamic Views, in Books,"
The New York Times, 8 February 2007.

9. To know absolutely that there is no God one must have infinite knowledge. But to have infinite knowledge one would have to be God. It is impossible to be God and an atheist at the same time. Atheists cannot prove that God doesn't exist.
—"Argument Against Atheism,"
http://aaron_mp.tripod.com/id2.html (2007)
10. When we had got to this point in the argument, and everyone saw that the definition of justice had been completely upset, Thrasymachus, instead of replying to me, said: "Tell me, Socrates, have you got a nurse?"
"Why do you ask such a question," I said, "when you ought rather to be answering?"
"Because she leaves you to snivel, and never wipes your nose; she has not even taught you to know the shepherd from the sheep."

—Plato, *The Republic*

11. I also admit that there are people for whom even the reality of the external world [is] a grave problem. My answer is that I do not address *them*, but that I presuppose a minimum of reason in my readers.

—Paul Feyerabend, "Materialism and the Mind-Body Problem,"
The Review of Metaphysics, 1963

12. Clarence Darrow, renowned criminal trial lawyer, began one shrewd plea to a jury thus:

You folks think we city people are all crooked, but we city people think you farmers are all crooked. There isn't one of you I'd trust in a horse trade, because you'd be sure to skin me. But when it comes to having sympathy with a person in trouble, I'd sooner trust you folks than city folks, because you come to know people better and get to be closer friends.

—Irving Stone, *Clarence Darrow for the Defense*, 1943

13. A national organization called In Defense of Animals registered protest, in 1996, against alleged cruelty to animals being sold live or slaughtered in Chinese markets in San Francisco. Patricia Briggs, who brought the complaint to the city's Animal Welfare Commission, said: "The time of the crustaceans is coming. You'd think people wouldn't care about lobsters, because they aren't cuddly and fuzzy and they have these vacant looks and they don't vocalize. But you'd be surprised how many people care." To which response was given by Astella Kung, proprietor of Ming Kee Game Birds, where fowl are sold live: "How about the homeless people? Why don't the animal people use their energy to care for those people? They have no homes! They are hungry!"

—"Cuisine Raises Debate on Cruelty and Culture,"
The New York Times, 26 August 1996

14. The U.S. Department of Agriculture operates a price support program for the benefit of tobacco producers; its regulations limit the amount of tobacco that can be grown, and thus keep the price of tobacco high. Those same producers fight against consumer health regulations. On what ground? One analyst observed:

For the proponent of price support regulations to turn around and fight consumer-health regulations on the grounds that government regulation is unwarranted interference by big brother and bad for the economy is the kind of argument that makes rational people wince.

—A. L. Fritschler, *Smoking and Politics*
(Englewood Cliffs, NJ: Prentice-Hall, 1983)

15. During World War I, the British government deliberately inflamed the anti-German sentiments of the people with cartoons: one of these cartoons appears immediately below.

RED CROSS OR IRON CROSS?



WOUNDED AND A PRISONER
OUR SOLDIER CRIES FOR WATER.

THE GERMAN "SISTER"
POURS IT ON THE GROUND BEFORE HIS EYES.

THERE IS NO WOMAN IN BRITAIN
WHO WOULD DO IT.

THERE IS NO WOMAN IN BRITAIN
WHO WILL FORGET IT.

Source: Wilson, David (20th century). The Bridgeman Art Library International. Private Collection/The Bridgeman Art Library.

B. Each of the following passages may be plausibly criticized by some who conclude that it contains a fallacy, but each will be defended by some who deny that the argument is fallacious. Discuss the merits of each argument and explain why you conclude that it does or does not contain a fallacy of relevance.

1. The chairman of General Electric, Jack Welch, was challenged at a stockholder's meeting recently by a nun who argued that GE was responsible for the cleanup of the Hudson River where pollutants from GE's plants had for many years been allowed to collect. Welch flatly denied the company's responsibility, saying, "Sister, you have to stop this conversation. You owe it to God to be on the side of truth here."

—Elizabeth Kolbert, "The River," *The New Yorker*, 4 December 2000

2. Gender feminism is notoriously impossible to falsify: it chews up and digests all counterevidence, transmuting it into confirming evidence.

The fact that most people, including most women, do not see the pervasive and tenacious system of male power only shows how thoroughly they have been socialized to perpetuate it. The more women who reject the gender feminist perspective, the more this proves them in thrall to the androcentric system. Nothing and no one can refute the hypothesis of the sex-gender system for those who . . . see it so clearly "everywhere."

—Christina Sommers,
Proceedings of the American Philosophical Association, June 1992

3. As the American Revolution began to appear likely, some Americans sought reconciliation with England; Thomas Paine opposed reconciliation bitterly. In *Common Sense* (1776), he wrote:

. . . all those who espouse the doctrine of reconciliation may be included within the following descriptions. Interested men, who are not to be trusted, weak men who cannot see, prejudiced men who will not see, and a certain set of moderate men who think better of the European world than it deserves; and this last class, by an ill-judged deliberation, will be the cause of more calamities to this Continent than all the other three.

4. "But I observe," says Cleanthes, "with regard to you, Philo, and all speculative sceptics, that your doctrine and practice are as much at variance in the most abstruse points of theory as in the conduct of common life."

—David Hume, *Dialogues Concerning Natural Religion*, 1779

5. A press release from the National Education Association (NEA) begins with the following statement. "America's teachers see smaller classes as the most critical element in doing a better job, a survey by the NEA indicates." . . . But the NEA, of course, is interested in having as many teachers in the schools as possible. For example, in a 3,000-pupil school system with 30 pupils assigned to each class, the teaching staff would be approximately 100. But if class size were changed to 25 the total number of teachers would rise to 120. And in a time of shrinking enrollments, that is a way to keep teachers on the public payroll. . . .

It is unfortunate that an organization with the professional reputation the National Education Association enjoys should be so self-serving.

—Cynthia Parsons, *Christian Science Monitor Service*

6. I testify unto every man that heareth the words of the prophecy of this book. If any man shall add unto these things, God shall add unto him the plagues that are written in this book: And if any man shall

take away from the words of the book of this prophecy, God shall take away his part out of the book of life, and out of the holy city and from the things which are written in this book.

—Rev. 22: 18–19

7. **Anytus:** “Socrates, I think that you are too ready to speak evil of men: and, if you will take my advice, I would recommend you to be careful. Perhaps there is no city in which it is not easier to do men harm than to do them good, and this is certainly the case at Athens, as I believe that you know.”

—Plato, *Meno*

8. The Greek historian Thucydides, in his *History of the Peloponnesian War*, gave the following account of an Athenian’s appeal to representatives of the small island of Melos, to join Athens in its war against Sparta:

You know as well as we do that, in the logic of human nature, right only comes into question where there is a balance of power, while it is might that determines what the strong exhort and the weak concede . . . Your strongest weapons are hopes yet unrealized, while the weapons in your hands are somewhat inadequate for holding out against the forces already arranged against you . . . Reflect that you are taking a decision for your country, a country whose fate hangs upon a single decision right or wrong.

9. In that melancholy book, *The Future of an Illusion*, Dr. Freud, himself one of the last great theorists of the European capitalist class, has stated with simple clarity the impossibility of religious belief for the educated man of today.

—John Strachey,
The Coming Struggle for Power, 1933

10. The classic trap for any revolutionary is always “What’s your alternative?” But even if you *could* provide the interrogator with a blueprint, this does not mean he would use it; in most cases he is not sincere in wanting to know.

—Shulamith Firestone,
The Dialectic of Sex: The Case for Feminist Revolution, 1970

4.4 Fallacies of Defective Induction

The premises of the fallacious arguments described in the preceding section are not relevant to the conclusions drawn. However, there are many fallacious arguments in which the premises are relevant and yet are wholly inadequate.

These we call *fallacies of defective induction*. What are asserted as premises simply do not serve as good reasons to reach the conclusion drawn.

D1. THE ARGUMENT FROM IGNORANCE (ARGUMENT *AD IGNORANTIAM*)

If some proposition has not yet been proved false, we are not entitled to conclude that it is true. The same point can be made in reverse: If some proposition has not yet been proved true, we are not entitled to conclude that it is false. Many true propositions have not yet been proved true, of course, just as many false propositions have not yet been proved false. The fact that we cannot now be confident rarely serves as a good reason to assert knowledge of falsity, or of truth. Such an inference is defective; the fallacy is called the *argument from ignorance*, or the *argument ad ignorantiam*. Ignorance sometimes obliges us to suspend judgment, assigning neither truth nor falsity to the proposition in doubt.

As a current illustration, the great abolitionist, Frederick Douglass, will soon have a memorial, now being built at the northwest corner of Central Park in New York City. Beneath an 8-foot statue of Douglass himself is planned a quilt in granite, an array of squares that are supposed, in legend, to be part of a secret code used along the Underground Railroad to aid slaves escaping from their southern owners. But prominent historians now agree that there never was such a code. There is no surviving example of such a quilt, and there is not a single mention of quilting codes in any diaries or memoirs from that period. The designer of the memorial, Algernon Miller, nevertheless insists that the quilt remain part of the memorial project. "No matter what anyone has to say," argues Miller, "they [his scholarly critics] weren't there in that particular moment." Not knowing that the legend is false, he concludes that we are justified in presuming it true.

The fallacious appeal to ignorance crops up in science when plausible claims are held to be false because evidence of their truth cannot be provided. There may be good reason for its absence: In archeology or in paleontology, for instance, that evidence may have been destroyed over time. In astronomy or in physics, the evidence desired may be so distant in space or in time that it is physically unobtainable. The fact that some desired evidence has not been gathered does not justify the conclusion that an otherwise plausible claim is false.

The argument from ignorance is particularly attractive to those who defend propositions that are very doubtful, even far-fetched. Pseudo-scientists who make unverifiable claims about psychic phenomena (for example, about telepathy, or about contact with the dead) may insist that the truth of their claims is supported by the fact that their critics have been unable to prove their falsehood.

An argument from ignorance was confronted by Galileo, whose newly invented telescope, early in the seventeenth century, plainly revealed the

mountains and valleys of the moon. In his day, the "truth" that the moon was a perfect crystalline sphere was unquestioned; it had to be perfect because that was what Aristotle had taught. Confronted by the evidence the telescope revealed, Galileo's Aristotelian opponents responded with an argument that seemed irrefutable: Any apparent irregularities on the moon's surface are in fact filled in with a crystalline substance that is, of course, invisible! This hypothesis saved the moon's perfection, was in accord with what Aristotle had taught—and could not be proved false. This fallacy deserved ridicule. Galileo answered with an *argumentum ad ignorantiam* of his own, absurd enough to expose his critics: The moon is not a perfect sphere, he replied, because there are surely crystal mountains—invisible!—rising high from its surface. Because my theological critics cannot prove the claim false, we cannot conclude that such mountains are not there!

Whenever some great change is proposed, within an institution, or in society at large, those threatened by it are likely to attack with an argument from ignorance. How do we know it will work? How do we know that it is safe? We do not know; and without the knowledge that it is workable and safe, we must not adopt the change proposed. To prove workability or safety in advance, however, is often impossible. The objection sometimes takes the form of questions that suggest (but do not assert) the most horrific outcomes.

The fallacy can be a serious hindrance to progress. When the recombination of DNA, now an invaluable tool in medical science, first became possible in the 1970s, objections to further experimentation in that field were based largely on ignorance. All experiments with recombinant DNA should be stopped immediately, said one prominent scientist, who asked: "If Dr. Frankenstein must go on producing his little biological monsters . . . how can we be sure what would happen once the little beasts escaped from the laboratory?"¹⁶ Another fearful scientist who sought to block these investigations made the appeal to ignorance explicitly:

Can we predict the consequences? We are ignorant of the broad principles of evolution. . . . We simply do not know. We are ignorant of the various factors we currently perceive to participate in the evolutionary process. We are ignorant of the depth of security of our own environmental niche. . . . We do not know.¹⁷

What we do not know does not justify condemning the effort to learn. Fortunately, these appeals to ignorance were not successful in halting experimentation in a scientific realm whose value in saving and improving lives has proved, in the years since, to be incalculable.

Policy changes may be supported, as well as opposed, by an appeal to ignorance. When the federal government issued a waiver allowing Wisconsin to reduce the additional benefits it had been giving to welfare mothers for

having more than one child, the governor of Wisconsin was asked if there was any evidence that unwed mothers were having additional children simply to gain the added income. His reply, *ad ignorantiam*, was this: "No, there isn't. There really isn't, but there is no evidence to the contrary, either."¹⁸

In some circumstances, of course, the fact that certain evidence or results have not been obtained, even after they have been actively sought in ways calculated to reveal them, may have substantial argumentative force. New drugs being tested for safety, for example, are commonly given to rodents or other animal subjects for prolonged periods; the absence of any toxic effect on the animals is taken to be evidence (although not conclusive evidence) that the drug is probably not toxic to humans. Consumer protection often relies on evidence of this kind. In circumstances like these we rely, not on ignorance, but on our knowledge, or conviction, that if the result we are concerned about were likely to arise, it would have arisen in some of the test cases. This use of the inability to prove something true supposes that investigators are highly skilled, and that they very probably would have uncovered the evidence sought had that been possible. Tragic mistakes sometimes are made in this sphere, but if the standard is set too high—if what is required is a conclusive proof of harmlessness that cannot ever be given—consumers will be denied what may prove to be valuable, even life-saving, medical therapies.

Similarly, when a security investigation yields no evidence of improper conduct by the persons investigated, it would be wrong to conclude that the investigation has left us ignorant. A thorough investigation will properly result in the persons being "cleared." Not to draw a conclusion, in some cases, is as much a breach of correct reasoning as it would be to draw a mistaken conclusion.

The appeal to ignorance is common and often appropriate in a criminal court, where an accused person, in U.S. jurisprudence and British common law, is presumed innocent until proved guilty. We adopt this principle because we recognize that the error of convicting the innocent is far more grave than that of acquitting the guilty—and thus the defense in a criminal case may legitimately claim that if the prosecution has not proved guilt beyond a reasonable doubt, the only verdict possible is not guilty. The U.S. Supreme Court strongly reaffirmed this standard of proof in these words:

The reasonable-doubt standard . . . is a prime instrument for reducing the risk of convictions resting on factual error. The standard provides concrete substance for the presumption of innocence—that bedrock axiomatic and elementary principle whose enforcement lies at the foundation of the administration of our criminal law.¹⁹

However, *this* appeal to ignorance succeeds only when innocence must be assumed in the absence of proof to the contrary; in other contexts, such an appeal is indeed an argument *ad ignorantiam*.

D2. THE APPEAL TO INAPPROPRIATE AUTHORITY (ARGUMENT *AD VERECUNDIAM*)

In attempting to make up one's mind about some difficult or complicated question, it is entirely reasonable to be guided by the judgment of an acknowledged expert. When we argue that a given conclusion is correct on the ground that an expert authority has come to that judgment, we commit no fallacy. Indeed, such recourse to authority is necessary for most of us on very many matters. Of course, an expert's judgment constitutes no conclusive proof; experts disagree, and even in agreement they may err, but expert opinion surely is one reasonable way to support a conclusion.

The fallacy of the appeal to inappropriate authority (*ad verecundiam*) arises when the appeal is made to parties who have no *legitimate* claim to authority in the matter at hand. Thus, in an argument about morality, an appeal to the opinions of Darwin, a towering authority in biology, would be fallacious, as would be an appeal to the opinions of a great artist such as Picasso to settle an economic dispute.²⁰ Care must be taken in determining whose authority it is reasonable to rely on, and whose to reject. Although Picasso was not an economist, his judgment might plausibly be given some weight in a dispute pertaining to the economic value of an artistic masterpiece; and if the role of biology in moral questions were in dispute, Darwin might indeed be an appropriate authority.

The most blatant examples of misplaced appeals to authority appear in advertising "testimonials." We are urged to drive an automobile of a particular make because a famous golfer or tennis player affirms its superiority; we are urged to drink a beverage of a certain brand because some movie star or football coach expresses enthusiasm about it. Whenever the truth of some proposition is asserted on the basis of the authority of one who has no special competence in that sphere, the appeal to inappropriate authority is the fallacy committed.

This appears to be a simple-minded mistake that is easy to avoid, but there are circumstances in which the fallacious appeal is tempting, and therefore intellectually dangerous. Here are two examples: In the sphere of international relations, in which weapons and war unhappily play a major role, one opinion or another is commonly supported by appealing to those whose special competence lies in the technical design or construction of weapons. Physicists such as Robert Oppenheimer and Edward Teller, for example, may indeed have been competent to give authoritative judgments regarding how certain weapons can (or cannot) function, but their knowledge in this sphere did not give them special wisdom in determining broad political goals. An appeal to the strong judgment of a distinguished physicist as to the wisdom of ratifying some international treaty would be an argument *ad verecundiam*. Similarly, we admire the depth and insight of great fiction—say, in the novels of Alexander

Solzhenitsyn or Saul Bellow—but to resort to their judgment in determining the real culprit in some political dispute would be an appeal *ad verecundiam*.²¹

The argument *ad verecundiam* is an appeal to one who has no legitimate claim to authority. Even one who does have a legitimate claim to authority may well prove mistaken, of course, and we may later regret our choice of experts. But if the experts we chose deserved their reputation for knowledge, it was no fallacy to rely on them even if they erred. Our mistake becomes one of reasoning (a fallacy) when our conclusion is based on the verdict of an authority who has no rational claim to expertise in that matter.²²

D3. FALSE CAUSE (ARGUMENT NON CAUSA PRO CAUSA)

It is obvious that any reasoning that relies on treating as the cause of some thing or event what is not really its cause must be seriously mistaken. But often we are tempted to suppose, or led to suppose, that we understand some specific cause-and-effect relation when in fact we do not. The nature of the connection between cause and effect, and how we determine whether such a connection is present, are central problems of inductive logic and scientific method, discussed in detail in Part III of this book. Presuming the reality of a causal connection that does not really exist is a common mistake; in Latin the mistake is called the fallacy of *non causa pro causa*; we call it simply the fallacy of false cause.

Whether the causal connection alleged is indeed mistaken may sometimes be a matter for dispute. Some college faculty members, it has been argued, grade leniently because they fear that rigorous grading will cause lowered evaluations of them by their students and damage to their careers. Gradual “grade inflation” is said to be the result of this fear. One college professor wrote this:

Course evaluation forms [completed by students] are now required in many institutions, and salaries are influenced by the results. When I joined the University of Michigan 30 years ago, my salary was higher than that of any member of the anthropology department who is still active today. My standards for grading have not followed the trend toward inflation. Student complaints about grades have increased, and now my salary is at the bottom of the professorial list.²³

Do you think the author of this passage commits the fallacy of false cause?

We sometimes mistakenly presume that one event is caused by another because it follows that other closely in time. In primitive cultures such mistakes were common; the sun would invariably reappear after an eclipse if the drums had been beaten in the darkness, but we know that it is absurd to suppose that the beating of the drums was the cause of the sun’s reappearance. Mere temporal succession does not establish a causal connection. This variety of false cause is called the fallacy of *post hoc ergo propter hoc*—“after the thing, therefore because of the thing.”

Even very sophisticated people sometimes commit this fallacy. A few years ago, a critic ridiculed the reasoning of a U.S. Congressman this way:

I'm getting tired of assertions like those of Rep. Ernest Istook, Jr.—“As prayer has gone out of the schools, guns, knives, drugs, and gangs have come in”—with the unsupported implication that there is some causal connection between these events. . . . We could just as well say, “After we threw God out of the schools, we put a man on the moon.” Students may or may not need more faith, but Congress could certainly use more reason.²⁴

Mistakes of this kind are widespread. Unusual weather conditions are blamed on some unrelated celestial phenomenon that happened to precede them; an infection really caused by a virus is thought to be caused by a chill wind, or wet feet, and so on. Perhaps no sphere is more vulnerable to this sort of argument than that of crimes and punishments. Typical is this remark in a letter to the *New York Times*:

The death penalty in the United States has given us the highest crime rate and greatest number of prisoners per 100,000 population in the industrialized world.²⁵

Post hoc ergo propter hoc is an easy fallacy to detect when it is blatant, but even the best of scientists and statesmen are occasionally misled by it.

False cause is also the fallacy committed when one mistakenly argues against some proposal on the ground that any change in a given direction is sure to lead to further changes in the same direction—and thus to grave consequences. Taking this step, it may be said, will put us on a slippery slope to disaster—and such reasoning is therefore called the fallacy of the *slippery slope*. Whether the feared consequences will indeed arise is not determined by the first step in a given direction; the suggestion that a change in that direction will trigger a catastrophic chain reaction is not generally warranted, although such argument is commonly invoked in defense of the status quo. What needs to be determined is what, in fact, probably will (or will not) cause the results feared.

Consider the following illustration. One common objection to the legalization of assisted suicide is that once formal permission has been given to medical doctors to act in a way that is of disputable morality, doctors will be led to engage in more and greater immorality of the same or similar type. The first leniency ought to be avoided, according to this argument, because it will leave us insecure on a slope so slippery that our first step down cannot be our last. To this argument one keen critic responded:

The slippery slope argument, although influential, is hard to deal with rationally. It suggests that once we allow doctors to shorten the life of patients who request it, doctors could and would wantonly kill burdensome patients who do not want to die. This suggestion is not justified. . . .

Physicians often prescribe drugs which, in doses greater than prescribed, would kill the patient. No one fears that the actual doses prescribed will lead to their use of lethal doses. No one objects to such prescriptions in fear of a "slippery slope." Authorizing physicians to assist in shortening the life of patients who request this assistance no more implies authority to shorten the life of patients who want to prolong it, than authority for surgery to remove the gall bladder implies authority to remove the patient's heart.²⁶

The supposition that moving in a given direction, however prudently, is sure to produce the dreadful result of moving in the same direction to excess, is the fallacy of the slippery slope.

There are circumstances, of course, in which the first step in a new direction does establish a precedent that makes additional movement in that direction easier to achieve. This may be good or bad. Opposing new legislation that would punish crimes more severely if they were motivated by racial hatred, one critic writes:

There should not be a separate category for hate crimes. A murder is a murder; a beating is a beating. We should prosecute people for the crimes they commit, not why they commit them. If we start to categorize crimes by their motivation, we start down a very slippery slope.²⁷

Some arguments of this kind have merit, because precedent can affect subsequent decision making. The slippery slope is indeed a fallacy—but the mere allegation that that fallacy has been committed does not prove the argument in question faulty.

D4. HASTY GENERALIZATION

Throughout our lives, we rely on statements about how things generally are and how people generally behave. But general claims, although critical in reasoning, must be carefully scrutinized: The universality of their application ought never be accepted or assumed without justification. **Hasty generalization** is the fallacy we commit when we draw conclusions about *all* the persons or things in a given class on the basis of our knowledge about only one (or only a very few) of the members of that class. We all know of persons who have generalized mistakenly about certain companies or governments because of a single experience. Stereotypes about people who come from certain countries, or cultures, are widespread and commonly mistaken; hasty generalizations about foreign cultures can be downright nasty, and are good illustrations of the fallacious leap to broad generalization on the basis of very little evidence.

An anecdote or single instance may indeed be relevant support for a general rule or theory. But when it is treated as proof of that theory, the generalization is not well founded; the induction is defective. Here is an example: Eating deep-fried foods tends to raise one's cholesterol level. A single instance

in which it does not do so is hardly sufficient to show that such foods are healthy. The owner of a "fish and chips" shop in England fallaciously defended the healthfulness of his deep-fried cookery with this argument:

Take my son, Martyn. He's been eating fish and chips his whole life, and he just had a cholesterol test, and his level is below the national average. What better proof could there be than a fryer's son?²⁸

Foods or drugs that are harmless in one context may be harmful in another. To move from a single case, or a very few cases, to a large-scale generalization about all or most cases, is fallacious reasoning, but it is common and often tempting. It is also called the **fallacy of converse accident** because it is the reverse of another common mistake, known as the *fallacy of accident*, in which generalizations are misused in another way. We turn to it next.

OVERVIEW

Fallacies of Defective Induction

D1. The Argument from Ignorance (*ad ignorantiam*)

An informal fallacy in which a conclusion is supported by an illegitimate appeal to ignorance, as when it is supposed that something is likely to be true because we cannot prove that it is false.

D2. The Appeal to Inappropriate Authority (*ad verecundiam*)

An informal fallacy in which the appeal to authority is illegitimate because the authority appealed to has no special claim to expertise on the matter in question.

D3. False Cause

An informal fallacy in which the mistake arises from accepting as the cause of an event what is not really its cause.

D4. Hasty Generalization

An informal fallacy in which a principle that is true of a particular case is applied, carelessly or deliberately, to the great run of cases.

4.5 Fallacies of Presumption

Some mistakes in everyday reasoning are the consequence of an *unjustified assumption*, often suggested by the way in which the argument is formulated. That suggestion may be deliberate, or the assumption may be only an oversight. In either case, the upshot is that the reader, the listener, and even the author of the passage may be led to assume the truth of some unproved and

unwarranted proposition. When such dubious propositions, buried in the argument, are crucial for the support of the conclusion, the argument is bad and can be very misleading. Arguments that depend on such unwarranted leaps are called **fallacies of presumption**.

In fallacious arguments of this kind the premises may indeed be relevant to the conclusion drawn, but that relevance is likely to flow from the tacit supposition of what has not been given support and may even be unsupportable. The presumption often goes unnoticed. To expose such a fallacy it is therefore usually sufficient to call attention to the smuggled assumption, or supposition, and to its doubtfulness or its falsity. Three common fallacies are included in this category.

P1. ACCIDENT

Circumstances alter cases. A generalization that is true by and large may not apply in a given case (or to some subcategory of cases) for good reasons. The reasons the generalization does not apply in those cases have to do with the special circumstances, also called the "accidental" circumstances, of that case or those cases. If these accidental circumstances are ignored, and we assume that the generalization applies universally, we commit the **fallacy of accident**.

In the preceding section we explained the *fallacy of converse accident*, or *hasty generalization*, the mistake of moving carelessly or too quickly to a generalization that the evidence does not support. *Accident* is the fallacy that arises when we move carelessly or unjustifiably *from* a generalization to some particulars that it does not in fact cover.

Experience teaches us that even generalizations that are widely applicable and very useful are likely to have exceptions for which we must be on guard. For example, there is a general principle in law that hearsay evidence—statements made by a third party outside court—may not be accepted as evidence in court; this is the "hearsay rule," and it is a good rule. But when the person whose oral communications are reported is dead, or when the party reporting the hearsay in court does so in conflict with his own best interest, that rule may not apply. Indeed, there is hardly any rule or general principle that does not have plausible exceptions, and we are likely to argue fallaciously if we reason on the supposition that some rule applies universally.

P2. COMPLEX QUESTION

One of the most common fallacies of presumption is asking a question in such a way as to presuppose the truth of some conclusion that is buried in the question. The question itself is likely to be rhetorical, with no answer actually being sought. But putting the question seriously, thereby introducing its presupposition surreptitiously, often achieves the questioner's purpose—fallaciously.

Thus an essayist recently asked:

With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is the greatest hoax ever perpetrated on the American people?²⁹

Such a statement assumes that much of the evidence supporting global warming is unreliable or "phony." Or a homeowner might ask, regarding a proposed increase in the property tax, "How can you expect the majority of the voters, who rent but don't own property and don't have to pay the tax, to care if the tax burden of others is made even more unfair?"—assuming both that the burden of the proposed tax is unfair and that those who rent rather than own their own homes are not affected by tax increases on property. Because assumptions like these are not asserted openly, the questioners evade the need to defend them forthrightly.

The **complex question** is often a deceitful device. The speaker may pose some question, then answer it or strongly suggest the answer with the truth of the premise that had been buried in the question simply assumed. A letter writer asks, "If America's booming economy depends on people's using consumer credit beyond their means, thus creating poverty, do we really have a healthy economy?"³⁰ But the role and the results of consumer credit remain to be addressed.

One critic of research in genetics hides his assumptions in this question: "What are the consequences of reducing the world's gene pool to patented intellectual property, controlled by a handful of life-science corporations?"³¹ The "consequences" asked about are never actually discussed; they are only a device with which the reader may be frightened by the assumptions of the question—that the world's gene pool is soon likely to be reduced to patented intellectual property, and that a handful of corporations will soon control that gene pool. Establishing the plausibility of such threats requires much more than asking questions designed to presuppose them.

The appearance of a question in an editorial or headline often has the purpose of suggesting the truth of the unstated assumptions on which it is built: "Judge Took Bribe?" This technique is a common mark of what is called "yellow journalism." And in debate, whenever a question is accompanied by the aggressive demand that it be answered "yes or no," there is reason to suspect that the question is "loaded"—that it is unfairly complex.

Does the distinguished senator believe that the American public is really so naïve that they will endorse just any stopgap measure?

This "question," of course, cannot be answered "Yes." It conceals several unchallenged assumptions: that what is proposed is a "stopgap" measure, that it is inadequate, and that the American public would reject it.

The mistake that underlies the fallacy of complex question also underlies a common problem in parliamentary procedure. Deliberative bodies sometimes confront a motion that, although not intended deceptively, is covertly complex. In such circumstances there is a need, before discussion, to simplify the issues confronting the body. This accounts for the privileged position, in parliamentary procedure governed by *Robert's Rules of Order* or similar manuals, of the motion to *divide the question*. For example, a motion that the body "postpone for one year" action on some controversial matter may wisely be divided into the questions of whether to postpone action, and if that is done, then to determine the length of the postponement. Some members may support the postponement itself yet find the one-year period intolerably long; if the opportunity to divide the question were not given priority, the body might be maneuvered into taking action on a motion that, because of its complexity, cannot be decided in a way that captures the true will of the body. A presiding officer, having the duty to promote a fully rational debate, may solicit the motion to divide the question before beginning the substantive discussion.

Egregious examples of the fallacy of the complex question arise in dialogue or cross-examination in which one party poses a question that is complex, a second party answers the question, and the first party then draws a fallacious inference for which that answer was the ground. For example:

Lawyer: The figures seem to indicate that your sales increased as a result of these misleading advertisements. Is that correct?

Witness: They did not!

Lawyer: But you do admit, then, that your advertising was misleading. How long have you been engaging in practices like these?

When a question is complex, and all of its presuppositions are to be denied, they must be denied individually. The denial of only one presupposition may lead to the assumption of the truth of the other. In law, this has been called "the negative pregnant." Here is an illustration from a notorious murder trial:

Q: Lizzie, did you not take an axe and whack your mother forty times, and then whack your father forty-one times when faced with the prospect of cold mutton stew?

A: Not true. We were to eat brussel sprouts fondue that day.

P3. BEGGING THE QUESTION (*PETITIO PRINCIPII*)

The fallacy called **begging the question** is widely misunderstood, partly because its name is misleading. It is in fact the mistake of assuming the truth of what one seeks to prove. The "question" in a formal debate is the

issue that is in dispute; to “beg” the question is to ask, or to suppose, that the very matter in controversy be conceded. This is an argument with no merit at all, of course, and one who makes such an assumption commits a gross fallacy.

The Latin name of the fallacy, for which “begging the question” is the translation, is *petitio principii*, so each instance of it is called a *petitio*. One might think the fallacy would be so obvious that no one would ever commit it, but that is not the case. The logical mistake arises because it is obscured, even from its author, by the language used. Logician Richard Whately used this classic example of a deceptive *petitio*:

To allow every man unbounded freedom of speech must always be, on the whole, advantageous to the state; for it is highly conducive to the interests of the community that each individual should enjoy a liberty, perfectly unlimited, of expressing his sentiments.³²

This statement says only that freedom of speech is a good thing because it is a good thing—which is not much of an argument.

In the effort to establish the desired conclusion, an author may cast about, searching for premises that will do the trick. Of course, the conclusion itself, reformulated in other words, will do the trick very nicely. Another illustration, equally fallacious, is found in this claim by a sixteenth-century Chinese philosopher:

There is no such thing as knowledge which cannot be carried into practice, for such knowledge is really no knowledge at all.³³

This fallacy, like the fallacy of missing the point, is often a *mistake* that is not recognized by the author of the passage. The presumption that is the heart of the fallacy is buried in the verbiage of the premises, sometimes obscured by confusing or unrecognized synonyms. The arguments are **circular**—every *petitio* is a circular argument—but the circle that has been constructed may be large and confusing, and thus the logical mistake goes unseen.

It would be wrong to suppose that only silly authors make this mistake. Even powerful minds are on occasion snared by this fallacy as is illustrated by a highly controversial issue in the history of philosophy. Logicians have long sought to establish the reliability of inductive procedures by establishing the truth of what is called the *principle of induction*. This is the principle that the laws of nature will operate tomorrow as they operate today, that in basic ways nature is essentially uniform, and that therefore we may rely on past experience to guide our conduct in the future. “That the future will be essentially like the past” is the claim at issue, but this claim, never doubted in ordinary life, turns out to be very difficult to prove. Some thinkers have claimed that they could prove it by showing that, when we have in the past relied on the

inductive principle, we have always found that this method has helped us to achieve our objectives. They ask, "Why conclude that the future will be like the past?" and answer, "Because it always has been like the past."

As David Hume pointed out, however, this common argument is a *petitio*—it begs the question. The point at issue is whether nature *will continue* to behave regularly. That it *has* done so in the past cannot serve as proof that it *will* do so in the future, unless one assumes the very principle that is here in question: that the future will be like the past. And so Hume, granting that in the past the future has been like the past, asked the telling question with which philosophers still tussle: How can we know that future futures will be like past futures? They *may* be so, of course, but we cannot *assume* that they will be for the sake of *proving* that they will.³⁴

Because the name of this fallacy is widely misunderstood, that name is sometimes wrongly used to refer to a linguistic device that is not a fallacy, not even an argument of any kind, but merely a provocative observation. A claim "begs" the question (in this sense) when it *raises* some question or opens the door to some controversy. Thus a magazine headline may mistakenly read, "The President's decision to invade Iraq begs the question: What are the limits of the President's war-making authority?" This use of the phrase is simply a linguistic mistake. To "beg the question" is not to raise the issue, but to *assume* the truth of the conclusion sought.

Circular arguments are certainly fallacious, but the premises are not irrelevant to the conclusions drawn. They are relevant; indeed, they prove the conclusion, but they do so trivially—they end where they began. A *petitio principii* is always technically valid, but always worthless.

OVERVIEW

Fallacies of Presumption

P1. Accident

An informal fallacy in which a generalization is applied to individual cases that it does not govern.

P2. Complex Question

An informal fallacy in which a question is asked in such a way as to presuppose the truth of some proposition buried in the question.

P3. Begging the Question (*petitio principii*)

An informal fallacy in which the conclusion of an argument is stated or assumed in one of the premises.

EXERCISES

Identify and explain any fallacies of defective induction or of presumption in the following passages.

1. My generation was taught about the dangers of social diseases, how they were contracted, and the value of abstinence. Our schools did not teach us about contraception. They did not pass out condoms, as many of today's schools do. And not one of the girls in any of my classes, not even in college, became pregnant out of wedlock. It wasn't until people began teaching the children about contraceptives that our problems with pregnancy began.

—Frank Webster, "No Sex Education, No Sex,"
Insight, 17 November 1997

2. A national mailing soliciting funds, by People for the Ethical Treatment of Animals (PETA), included a survey in which questions were to be answered "yes" or "no." Two of the questions asked were these:

"Do you realize that the vast majority of painful animal experimentation has no relation at all to human survival or the elimination of disease?"

"Are you aware that product testing on animals does *not* keep unsafe products off the market?"

3. If you want a life full of sexual pleasures, don't graduate from college. A study to be published next month in *American Demographics* magazine shows that people with the most education have the least amount of sex.

—*The Chronicle of Higher Education*, 23 January 1998

4. There is no surprise in discovering that acupuncture can relieve pain and nausea. It will probably also be found to work on anxiety, insomnia, and itching, because these are all conditions in which placebos work. Acupuncture works by suggestion, a mechanism whose effects on humans are well known.

The danger in using such placebo methods is that they will be applied by people inadequately trained in medicine in cases where essential preliminary work has not been done and where a correct diagnosis has not been established.

—Fred Levit, M.D., "Acupuncture is Alchemy, Not Medicine,"
The New York Times, 12 November 1997

5. In a motion picture featuring the famous French comedian Sacha Guitry, three thieves are arguing over division of seven pearls worth a king's ransom. One of them hands two to the man on his right, then two to the man on his left. "I," he says, "will keep three." The man on his right says, "How come you keep three?" "Because I am the leader." "Oh. But how come you are the leader?" "Because I have more pearls."

6. "... I've always reckoned that looking at the new moon over your left shoulder is one of the carelesstest and foolishst things a body can do. Old Hank Bunker done it once, and bragged about it; and in less than two years he got drunk and fell off of the shot tower, and spread himself out so that he was just a kind of a layer, as you may say; and they slid him edgeways between two barn doors for a coffin, and buried him so, so they say, but I didn't see it. Pap told me. But anyway it all come of looking at the moon that way, like a fool."

—Mark Twain, *The Adventures of Huckleberry Finn*, 1885

7. Former Senator Robert Packwood of Oregon became so angry at the state's leading newspaper, the *Portland Oregonian*, that in response to a request from that paper for a quote, he offered this: "Since I quit talking to the *Oregonian*, my business has prospered beyond all measure. I assume that my business has prospered because I don't talk to the *Oregonian*. Therefore I will continue that policy. Thanks."

—*The New York Times*, 7 February 1999

8. Mr. Farrakhan, the Black Muslim leader, citing the example of Israel, said black Americans should also be able to form a country of their own on the African continent, and said he plans to ask African leaders to "carve out a territory for all people in the diaspora." He said black Americans should also be granted dual citizenship by all African countries. "We want dual citizenship," he said, "and because we don't know where we came from, we want dual citizenship everywhere."

—Kenneth Noble, "U.S. Blacks and Africans Meet to Forge Stronger Ties," *The New York Times*, 27 May 1993

9. The French claim to be a nation of rebels. In fact their heyday of revolution is over. Twenty-first century France rebels against change, not for it. What typically happens is that a French government

decides to do something radical like, say, enable companies to fire service-sector workers who assault their customers. The unions see this as the first step on the road to slavery and call a national strike. After a week of posturing the government backs down and waiters and sales clerks go back to insulting customers just as they have done since time immemorial.

—S. Clarke, "No Sex, Please, We're French,"
The New York Times, 23 March 2007

10. Hiroyuki Suzuki was formerly a member of the Sakaume gumi, an independent crime family in Japan known for its role in gambling. Mr. Suzuki's wife Mariko broke her kneecap, and when Mariko went to church the next Sunday, the minister put his hands on her broken knee and pronounced it healed. She walked away from church that day. Mr. Suzuki regarded her religion as a silly waste of time—but he was fascinated by the recovery of her knee. "In gambling," he said, "you use dice. Dice are made from bone. If God could heal her bone, I figured he could probably assist my dice and make me the best dice thrower in all of Japan." Mr. Suzuki's gambling skills did improve, enabling him to pay off his debts. He now says his allegiance is to Jesus.

—Stephanie Strom, "He Watched over His Rackets,"
The New York Times, 22 June 1999

4.6 Fallacies of Ambiguity

The meaning of words or phrases may shift as a result of inattention, or may be deliberately manipulated within the course of an argument. A term may have one sense in a premise but quite a different sense in the conclusion. When the inference drawn depends on such changes it is, of course, fallacious. Mistakes of this kind are called **fallacies of ambiguity** or sometimes "sophisms." The deliberate use of such devices is usually crude and readily detected—but at times the ambiguity may be obscure, the error accidental, the fallacy subtle. Five varieties are distinguished here.

A1. EQUIVOCATION

Most words have more than one literal meaning, and most of the time we have no difficulty keeping those meanings separate by noting the context and using our good sense when reading and listening. Yet when we confuse the several meanings of a word or phrase—accidentally or deliberately—we are

using the word equivocally. If we do that in the context of an argument, we commit the **fallacy of equivocation**.

Sometimes the equivocation is obvious and absurd and is used in a joking line or passage. Lewis Carroll's account of the adventures of Alice in *Through the Looking Glass* is replete with clever and amusing equivocations. One of them goes like this:

"Who did you pass on the road?" the King went on, holding his hand out to the messenger for some hay.

"Nobody," said the messenger.

"Quite right," said the King; "this young lady saw him too. So of course Nobody walks slower than you."

The equivocation in this passage is in fact rather subtle. As it is first used here, the word "nobody" simply means "no person." But reference is then made using a pronoun ("him"), as though that word ("nobody") had named a person. And when subsequently the same word is capitalized and plainly used as a name ("Nobody"), it putatively names a person having a characteristic (not being passed on the road) derived from the first use of the word. Equivocation is sometimes the tool of wit—and Lewis Carroll was a very witty logician.*

Equivocal arguments are always fallacious, but they are not always silly or comic, as in the example discussed in the following excerpt:

There is an ambiguity in the phrase "have faith in" that helps to make faith look respectable. When a man says that he has faith in the president he is assuming that it is obvious and known to everybody that there is a president, that the president exists, and he is asserting his confidence that the president will do good work on the whole. But, if a man says he has faith in telepathy, he does not mean that he is confident that telepathy will do good work on the whole, but that he believes that telepathy really occurs sometimes, that telepathy exists. Thus the phrase "to have faith in x" sometimes means to be confident that good work will be done by x, who is assumed or known to exist, but at other times means to believe that x exists. Which does it mean in the phrase "have faith in God"? It means ambiguously both; and the self-evidence of what it means in the one sense recommends what it means in the other sense. If there is a perfectly powerful and good god it is self-evidently reasonable to believe that he will do good. In this sense "have faith in God" is a reasonable exhortation. But it insinuates the other sense, namely "believe that

*This passage very probably inspired David Powers, who formally changed his name to Absolutely Nobody and ran as an independent candidate for lieutenant governor of the state of Oregon. His campaign slogan was "Hi, I'm Absolutely Nobody. Vote for me." In the general election of 1992, he drew 7 percent of the vote.

there is a perfectly powerful and good god, no matter what the evidence." Thus the reasonableness of trusting God if he exists is used to make it seem also reasonable to believe that he exists.³⁵

One kind of equivocation deserves special mention. This is the mistake that arises from the misuse of "relative" terms, which have different meanings in different contexts. For example, the word "tall" is a relative word; a tall man and a tall building are in quite different categories. A tall man is one who is taller than most men, a tall building is one that is taller than most buildings. Certain forms of argument that are valid for nonrelative terms break down when relative terms are substituted for them. The argument "an elephant is an animal; therefore a gray elephant is a gray animal" is perfectly valid. The word "gray" is a nonrelative term. But the argument "an elephant is an animal; therefore a small elephant is a small animal" is ridiculous. The point here is that "small" is a relative term: A small elephant is a very large animal. The fallacy is one of equivocation with regard to the relative term "small." Not all equivocation on relative terms is so obvious, however. The word "good" is a relative term and is frequently equivocated on when it is argued, for example, that so-and-so is a good general and would therefore be a good president, or that someone is a good scholar and is therefore likely to be a good teacher.

A2. AMPHIBOLY

The **fallacy of amphiboly** occurs when one is arguing from premises whose formulations are ambiguous because of their grammatical construction. The word "amphiboly" is derived from the Greek, its meaning in essence being "two in a lump," or the "doubleness" of a lump. A statement is amphibolous when its meaning is indeterminate because of the loose or awkward way in which its words are combined. An amphibolous statement may be true in one interpretation and false in another. When it is stated as premise with the interpretation that makes it true, and a conclusion is drawn from it on the interpretation that makes it false, then the fallacy of amphiboly has been committed.

In guiding electoral politics, amphiboly can mislead as well as confuse. During the 1990s, while he sat in the U.S. House of Representatives as a Democrat from California, Tony Coelho is reported to have said: "Women prefer Democrats to men." Amphibolous statements make dangerous premises—but they are seldom encountered in serious discourse.

What grammarians call "dangling" participles and phrases often present amphiboly of a striking sort, as in "The farmer blew out his brains after

taking affectionate farewell of his family with a shotgun." And tidbits in the *New Yorker* make acid fun of writers and editors who overlook careless amphiboly:

Dr. Salick donated, along with his wife, Gloria, \$4.5 million to Queens College for the center.

*Gloria is tax-deductible.*³⁶

A3. ACCENT

We have seen that shifting the meaning of some term in an argument may result in a fallacy of ambiguity. Most commonly that shift is an equivocation, as noted earlier. Sometimes, however, the shift is the result of a change in *emphasis* on a single word or phrase, whose meaning does not change. When the premise of an argument relies on one possible emphasis, but a conclusion drawn from it relies on the meaning of the same words emphasized differently, the **fallacy of accent** has been committed.

This fallacy can be very serious, and in argument it can be very damaging. But its name seems innocuous. This is due, in part, to the origin of the name in the classification of fallacies first presented by Aristotle.³⁷ It happens that in the Greek language of Aristotle's day, some words spelled identically had different meanings depending on the way in which they were pronounced, or accented. And those different meanings could result in a deceptive argument, appropriately called a fallacy of accent. In English today there are not very many cases in which changing the accent in a word changes the meaning of the word. Three of the most common are *increase* and *increase*, *insult* and *insult*, *record* and *record*. These pairs of words accented differently mean different parts of speech—one member of each pair is a noun, the other a verb—and thus it is unlikely that fallacious argument would now arise from those differently accented words.

Over the centuries, however, while the Aristotelian name has been retained, it has come to be applied to a much wider category, which includes the misleading uses of *emphasis* in various forms and the use of meanings deliberately taken out of context. We are greatly stretching the name "accent" that Aristotle used. If we could overcome the weight of tradition, we might wisely rename the argument that misleads in this way "the fallacy of emphasis."

Consider, as an illustration, the different meanings that can be given to the statement

We should not speak ill of our friends.

When the sentence is read without any special stress on one of its words, this injunction is surely one with which we would all agree. But, if the sentence is

read with stress on the word "friends," we might understand it to suggest that speaking ill of those who are *not* our friends is not precluded. Such an injunction is no longer acceptable as a moral rule. Or suppose we stress the word "speak" in this sentence. Then it might suggest that whereas nasty speech is to be avoided, one may *work* ill even on one's friends—a very troubling conclusion. If the word "we" is emphasized, the suggestion arises that the injunction applies to *us* but not to *others*. And so on. The various arguments that emerge are plainly the outcome of the deliberate manipulation of emphasis; the sentence can be used to achieve assorted fallacious ambiguities. How is the sentence to be rightly understood? That depends on its context, of course. Often, a phrase or a passage can be understood correctly only when its context is known, because that context makes clear the sense in which the words are intended.

Therefore the fallacy of accent may be construed broadly to include the distortion produced by pulling a quoted passage out of its context, putting it in another context, and there drawing a conclusion that could never have been drawn in the original context. Quoting out of context is sometimes done with deliberate craftiness. In the presidential election campaign of 1996 the Democratic vice-presidential candidate, Al Gore, was quoted by a Republican press aide as having said that "there is no proven link between smoking and lung cancer." Those were indeed Mr. Gore's exact words, uttered during a television interview in 1992. But they were only part of a sentence. In that interview, Mr. Gore's full statement was that some tobacco company scientists "*will claim with a straight face that there is no proven link between smoking and lung cancer. . . .*" But the weight of the evidence accepted by the overwhelming preponderance of scientists is, yes, smoking does cause lung cancer."³⁸

The omission of the words "will claim with a straight face" and of Gore's express conviction that cancer is caused by smoking, unfairly reversed the sense of the passage from which the quotation was pulled. The argument suggested by the abbreviated quotation, having the apparent conclusion that Mr. Gore seriously doubts the causal link between smoking and cancer, is an egregious example of the fallacy of accent.

Deliberate distortion of this kind is not rare. A biography by Thomas DiLorenzo, purporting to show that Abraham Lincoln was not the advocate of human equality he is widely thought to have been, quotes words of Lincoln that appear to mock the principle that "all men are created equal." Lincoln is quoted thus: "I am sorry to say that I have never seen two men of whom it is true. But I must admit I never saw the Siamese Twins, and therefore will not dogmatically say that no man ever saw a proof of this sage aphorism." DiLorenzo then remarks that such mockery contrasts sharply with the

"seductive words of the Gettysburg Address, eleven years later, in which he purported to rededicate the nation to the notion that all men are created equal."³⁹ But DiLorenzo fails to report that those quoted words were in fact Lincoln's account of the view of an unnamed Virginia clergyman, a view he goes on immediately to reject, saying that it "sounds strangely in republican America." DiLorenzo's failure to report the context of the words quoted renders his argument fallacious and disreputable.

Advertising often relies on the same device. A theater critic who says of a new play that it is far from the funniest appearing on Broadway this year may find herself quoted in an ad for the play: "Funniest appearing on Broadway this year!" To avoid such distortions, and the fallacies of accent that are built on them, the responsible writer must be scrupulously accurate in quotation, always indicating whether italics were in the original, indicating (with dots) whether passages have been omitted, and so on.

Physical manipulation of print or pictures is commonly used to mislead deliberately through accent. Sensational words appear in large letters in the headlines of newspaper reports, deliberately suggesting mistaken conclusions to those who glance hastily at them. Later in the report the headline is likely to be qualified by other words in much smaller letters. To avoid being tricked, by news reports or in contracts, one is well advised to give careful attention to "the small print." In political propaganda the misleading choice of a sensational heading or the use of a clipped photograph, in what purports to be a factual report, will use accent shrewdly so as to encourage the drawing of conclusions known by the propagandist to be false. An account that may not be an outright lie may yet distort by accent in ways that are deliberately manipulative or dishonest.

Such practices are hardly rare in advertising. A remarkably low price often appears in very large letters, followed by "and up" in tiny print. Wonderful bargains in airplane fares are followed by an asterisk, with a distant footnote explaining that the price is available only three months in advance for flights on Thursdays following a full moon, or that there may be other "applicable restrictions." Costly items with well-known brand names are advertised at very low prices, with a small note elsewhere in the ad that "prices listed are for limited quantities in stock." Readers are drawn into the store but are likely to be unable to make the purchase at the advertised price. Accented passages, by themselves, are not strictly fallacies; they become embedded in fallacies when one interpretation of a phrase, flowing from its accent, is relied on to suggest a conclusion (for example, that the plane ticket or brand item can be purchased at the listed price) that is very doubtful when account is taken of the misleading accent.

Even the literal truth can be used, by manipulating its placement, so to deceive with accent. Disgusted with his first mate, who was repeatedly inebriated while on duty, the captain of a ship noted in the ship's log, almost every day, "The mate was drunk today." The angry mate took his revenge. Keeping the log himself on a day when the captain was ill, the mate recorded, "The captain was sober today."

A4. COMPOSITION

The term **fallacy of composition** is applied to both of two closely related types of mistaken argument. The first may be described as *reasoning fallaciously from the attributes of the parts of a whole to the attributes of the whole itself*. A flagrant example is to argue that, because every part of a certain machine is light in weight, the machine "as a whole" is light in weight. The error here is manifest when we recognize that a very heavy machine may consist of a very large number of lightweight parts. Not all examples of fallacious composition are so obvious, however. Some are misleading. One may hear it seriously argued that, because each scene of a certain play is a model of artistic perfection, the play as a whole is artistically perfect. This is as much a fallacy of composition as to argue that, because every ship is ready for battle, the whole fleet must be ready for battle.

The other type of composition fallacy is strictly parallel to that just described. Here, the fallacy is *reasoning from attributes of the individual elements or members of a collection to attributes of the collection or totality of those elements*. For example, it would be fallacious to argue that because a bus uses more gasoline than an automobile, all buses use more gasoline than all automobiles. This version of the fallacy of composition turns on a confusion between the "distributive" and the "collective" use of general terms. Thus, although college students may enroll in no more than six different classes each semester, it is also true that college students enroll in hundreds of different classes each semester. This verbal conflict is easily resolved. It may be true of college students, distributively, that each may enroll in no more than six classes each semester. We call this a *distributive* use of the term "college students," because we are speaking of college students taken *singly*. But it is true of college students, taken collectively, that they enroll in hundreds of different classes each semester. This is a *collective* use of the term "college students," in that we are speaking of college students all together, as a totality. Thus, buses, distributively, use more gasoline than automobiles, but collectively, automobiles use more gasoline than buses, because there are so many more of them.

This second kind of composition fallacy may be defined as the invalid inference that what may truly be predicated of a term distributively may also be truly predicated of the term collectively. Thus, the atomic bombs dropped during World War II did more damage than did the ordinary bombs dropped—but only distributively. The matter is exactly reversed when the two kinds of bombs are considered collectively, because so many more conventional bombs were dropped than atomic ones. Ignoring this distinction in an argument permits the fallacy of composition.

These two varieties of composition, though parallel, are really distinct because of the difference between a mere collection of elements and a whole constructed out of those elements. Thus, a mere collection of parts is no machine; a mere collection of bricks is neither a house nor a wall. A whole, such as a machine, a house, or a wall, has its parts organized or arranged in certain definite ways. And because organized wholes and mere collections are distinct, so are the two versions of the composition fallacy, one proceeding invalidly to wholes from their parts, the other proceeding invalidly to collections from their members or elements.

A5. DIVISION

The **fallacy of division** is simply the reverse of the fallacy of composition. In it the same confusion is present, but the inference proceeds in the opposite direction. As in the case of composition, two varieties of the fallacy of division may be distinguished. The first kind of division consists of *arguing fallaciously that what is true of a whole must also be true of its parts*. To argue that, because a certain corporation is very important and Mr. Doe is an official of that corporation, therefore Mr. Doe is very important, is to commit the fallacy of division. This first variety of the division fallacy is committed in any such argument, as in moving from the premise that a certain machine is heavy, or complicated, or valuable, to the conclusion that this or any other part of the machine must be heavy, or complicated, or valuable. To argue that a student must have a large room because the room is located in a large dormitory would be still another instance of the first kind of fallacy of division.

The second type of division fallacy is committed *when one argues from the attributes of a collection of elements to the attributes of the elements themselves*. To argue that, because university students study medicine, law, engineering, dentistry, and architecture, therefore each, or even any, university student studies medicine, law, engineering, dentistry, and architecture is to commit the second kind of division fallacy. It is true that university students, collectively, study all these various subjects, but it is false that university students, distributively, do so. Instances of this fallacy of division often look like valid

arguments, for what is true of a class distributively is certainly true of each and every member. Thus the argument

Dogs are carnivorous.

Afghan hounds are dogs.

Therefore Afghan hounds are carnivorous.

is perfectly valid. Closely resembling this argument is another,

Dogs are frequently encountered in the streets.

Afghan hounds are dogs.

Therefore Afghan hounds are frequently encountered in the streets.

which is invalid, committing the fallacy of division. Some instances of division are obviously jokes, as when the classical example of valid argumentation,

Humans are mortal.

Socrates is a human.

Therefore Socrates is mortal.

is parodied by the fallacious

American Indians are disappearing.

That man is an American Indian.

Therefore that man is disappearing.

The old riddle, "Why do white sheep eat more than black ones?" turns on the confusion involved in the fallacy of division for the answer: "Because there are more of them," treats collectively what seemed to be referred to distributively in the question.

The fallacy of division, which springs from a kind of ambiguity, resembles the fallacy of accident (discussed in Section 4.5), which springs from unwarranted presumption. Likewise, the fallacy of composition, also flowing from ambiguity, resembles the hasty generalization we call "converse accident." But these likenesses are superficial. An explanation of the differences between the two pairs of fallacies will be helpful in grasping the errors committed in all four.

If we infer, from looking at one or two parts of a large machine, that because they happen to be well designed, every one of the machine's many parts is well designed, we commit the fallacy of converse accident or hasty generalization, for what is true about one or two parts may not be true of all. If we examine every single part and find that each is carefully made, and from that finding infer that the entire machine is carefully made, we also reason fallaciously, because however carefully the parts were produced, they may have been *assembled* awkwardly or carelessly. Here the fallacy is one of composition. In converse accident, one argues

that some atypical members of a class have a specified attribute, and therefore that all members of the class, distributively, have that attribute; in composition, one argues that, because each and every member of the class has that attribute, the class *itself* (collectively) has that attribute. The difference is great. In converse accident, all predications are distributive, whereas in the composition fallacy, the mistaken inference is from distributive to collective predication.

Similarly, division and accident are two distinct fallacies; their superficial resemblance hides the same kind of underlying difference. In division, we argue (mistakenly) that, because the class itself has a given attribute, each of its members also has it. Thus, it is the fallacy of division to conclude that, because an army as a whole is nearly invincible, each of its units is nearly invincible. In accident, we argue (also mistakenly) that, because some rule applies in general, there are no special circumstances in which it might not apply. Thus, we commit the fallacy of accident when we insist that a person should be fined for ignoring a "No Swimming" sign when jumping into the water to rescue someone from drowning.



OVERVIEW

Fallacies of Ambiguity

A1. Equivocation

An informal fallacy in which two or more meanings of the same word or phrase have been confused.

A2. Amphiboly

An informal fallacy arising from the loose, awkward, or mistaken way in which words are combined, leading to alternative possible meanings of a statement.

A3. Accent

An informal fallacy committed when a term or phrase has a meaning in the conclusion of an argument different from its meaning in one of the premises, the difference arising chiefly from a change in emphasis given to the words used.

A4. Composition

An informal fallacy in which an inference is mistakenly drawn from the attributes of the parts of a whole to the attributes of the whole itself.

A5. Division

An informal fallacy in which a mistaken inference is drawn from the attributes of a whole to the attributes of the parts of the whole.

Unlike accident and converse accident, composition and division are fallacies of *ambiguity*, resulting from the multiple meanings of terms. Wherever the words or phrases used may mean one thing in one part of the argument and another thing in another part, and those different meanings are deliberately or accidentally confounded, we can expect the argument to be fallacious.

EXERCISES

A. Identify and explain the fallacies of ambiguity that appear in the following passages.

1. . . . the universe is spherical in form . . . because all the constituent parts of the universe, that is the sun, moon, and the planets, appear in this form.

—Nicolaus Copernicus, *The New Idea of the Universe*, 1514

2. Robert Toombs is reputed to have said, just before the Civil War, "We could lick those Yankees with cornstalks." When he was asked after the war what had gone wrong, he is reputed to have said, "It's very simple. Those damn Yankees refused to fight with cornstalks."

—E. J. Kahn, Jr., "Profiles (Georgia)," *The New Yorker*, 13 February 1978

3. To press forward with a properly ordered wage structure in each industry is the first condition for curbing competitive bargaining; but there is no reason why the process should stop there. What is good for each industry can hardly be bad for the economy as a whole.

—Edmond Kelly, *Twentieth Century Socialism*, 1910

4. No man will take counsel, but every man will take money: therefore money is better than counsel.

—Jonathan Swift

5. I've looked everywhere in this area for an instruction book on how to play the concertina without success. (Mrs. F. M., Myrtle Beach, S.C., *Charlotte Observer*)

You need no instructions. Just plunge ahead boldly.

—*The New Yorker*, 21 February 1977

6. . . . each person's happiness is a good to that person, and the general happiness, therefore, a good to the aggregate of all persons.

—John Stuart Mill, *Utilitarianism*, 1861

7. If the man who "turnips!" cries
 Cry not when his father dies,
 'Tis a proof that he had rather
 Have a turnip than his father.

—Hester L. Piozzi, *Anecdotes of Samuel Johnson*, 1932

8. Fallaci wrote her: "You are a bad journalist because you are a bad woman."

—Elizabeth Peer, "The Fallaci Papers," *Newsweek*, 1 December 1980

9. A Worm-eating Warbler was discovered by Hazel Miller in Concord, while walking along the branch of a tree, singing, and in good view. (*New Hampshire Audubon Quarterly*)

That's our Hazel—surefooted, happy, and with just a touch of the exhibitionist.

—*The New Yorker*, 2 July 1979

10. The basis of logic is the syllogism, consisting of a major and a minor premise and a conclusion—thus:

Major Premise: Sixty men can do a piece of work sixty times as quickly as one man;

Minor Premise: One man can dig a post-hole in sixty seconds; therefore—*Conclusion:* Sixty men can dig a post-hole in one second.

This may be called the syllogism arithmetical, in which, by combining logic and mathematics, we obtain a double certainty and are twice blessed.

—Ambrose Bierce, *The Devil's Dictionary*, 1911

B. Each of the following passages may be plausibly criticized by some who conclude that it contains a fallacy, but each may be defended by some who deny that the argument is fallacious. Discuss the merits of the argument in each passage, and explain why you conclude that it does (or does not) contain a fallacy.

1. Seeing that eye and hand and foot and every one of our members has some obvious function, must we not believe that in like manner a human being has a function over and above these particular functions?

—Aristotle, *Nicomachean Ethics*

2. All phenomena in the universe are saturated with moral values. And, therefore, we can come to assert that the universe for the Chinese is a moral universe.

—T. H. Fang, *The Chinese View of Life*, 1956

3. The only proof capable of being given that an object is visible, is that people actually see it. The only proof that a sound is audible, is that people hear it: and so of the other sources of our experience. In like manner, I apprehend, the sole evidence it is possible to produce that anything is desirable, is that people actually desire it.

—John Stuart Mill, *Utilitarianism*, 1863

4. Thomas Carlyle said of Walt Whitman that he thinks he is a big poet because he comes from a big country.

—Alfred Kazin, "The Haunted Chamber,"
The New Republic, 23 June 1986

5. Mr. Levy boasts many excellent *bona fides* for the job [of Chancellor of the New York City Public Schools]. But there is one bothersome fact: His two children attend an elite private school on Manhattan's Upper East Side. Mr. Levy . . . should put his daughter and son in the public schools. I do not begrudge any parent the right to enroll a child in a private school. My wife and I considered several private schools before sending our children to a public school in Manhattan. Mr. Levy is essentially declaring the public schools unfit for his own children.

—Samuel G. Freedman, "Public Leaders, Private Schools,"
The New York Times, 15 April 2000

C. Identify and explain the fallacies of relevance or defective induction, or presumption, or ambiguity as they occur in the following passages. Explain why, in the case of some, it may be plausibly argued that what appears at first to be a fallacy is not when the argument is interpreted correctly.

1. John Angus Smith, approaching an undercover agent, offered to trade his firearm, an automatic, for two ounces of cocaine that he planned to sell at a profit. Upon being apprehended, Smith was charged with "using" a firearm "during and in relation to . . . a drug trafficking crime." Ordinarily conviction under this statute would result in a prison sentence of five years; however, if the firearm, as in this case, is "a machine gun or other automatic weapon" the mandatory sentence is 30 years. Smith was convicted and sentenced to 30 years in prison. The case was appealed to the U.S. Supreme Court.

Justice Antonin Scalia argued that, although Smith certainly did intend to trade his gun for drugs, that was not the sense of "using" intended by the statute. "In the search for statutory meaning we give nontechnical terms their ordinary meanings . . . to speak of 'using a firearm' is to speak of using it for its distinctive purpose, as a weapon." If asked whether you use a cane, he pointed out, the question asks

whether you walk with a cane, not whether you display “your grandfather’s silver-handled walking stick in the hall.”

Justice Sandra Day O’Connor retorted that we may do more than walk with a cane. “The most infamous use of a cane in American history had nothing to do with walking at all—the caning (in 1856) of Senator Charles Sumner in the United States Senate.”

Justice Scalia rejoined that the majority of the Court “does not appear to grasp the distinction between how a word can be used and how it is ordinarily used. . . . I think it perfectly obvious, for example, that the falsity requirement for a perjury conviction would not be satisfied if a witness answered ‘No’ to a prosecutor’s enquiry whether he had ever ‘used a firearm’ even though he had once sold his grandfather’s Enfield rifle to a collector.”

Justice O’Connor prevailed; Smith’s conviction was affirmed.

—John Angus Smith v. United States, 508 U.S. 223, 1 June 1993

2. *Time Magazine* book critic Lev Grossman was “quite taken aback” in the summer of 2006 when he saw a full-page newspaper advertisement for Charles Frazier’s novel, *Thirteen Moons*, that included a one-word quotation attributed to *Time*. Grossman had written, “Frazier works on an epic scale, but his genius is in the detail.” The one-word quotation by which he was struck was “Genius.”

—Henry Alford, “Genius!,” *The New York Times Review of Books*, 29 April 2007

3. In the Miss Universe Contest of 1994, Miss Alabama was asked: If you could live forever, would you? And why? She answered:

I would not live forever, because we should not live forever, because if we were supposed to live forever, then we would live forever, but we cannot live forever, which is why I would not live forever.

4. Order is indispensable to justice because justice can be achieved only by means of a social and legal order.

—Ernest Van Den Haag, *Punishing Criminals*, 1975

5. 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, pyre answering to pyre.

—Benedetto Croce, *Philosophy of the Practical*, 1935

6. The following advertisement for a great metropolitan newspaper appears very widely in Pennsylvania:

In Philadelphia nearly everybody reads the *Bulletin*.

7. . . . since it is impossible for an animal or plant to be indefinitely big or small, neither can its parts be such, or the whole will be the same.

—Aristotle, *Physics*

8. For the benefit of those representatives who have not been here before this year, it may be useful to explain that the item before the General Assembly is that hardy perennial called the "Soviet item." It is purely a propaganda proposition, not introduced with a serious purpose of serious action, but solely as a peg on which to hang a number of speeches with a view to getting them into the press of the world. This is considered by some to be very clever politics. Others, among whom the present speaker wishes to be included, consider it an inadequate response to the challenge of the hour.

—Henry Cabot Lodge, speech to the
United Nations General Assembly,
30 November 1953

9. The war-mongering character of all this flood of propaganda in the United States is admitted even by the American press. Such provocative and slanderous aims clearly inspired today's speech by the United States Representative, consisting only of impudent slander against the Soviet Union, to answer which would be beneath our dignity. The heroic epic of Stalingrad is impervious to libel. The Soviet people in the battles at Stalingrad saved the world from the fascist plague and that great victory which decided the fate of the world is remembered with recognition and gratitude by all humanity. Only men dead to all shame could try to cast aspersions on the shining memory of the heroes of that battle.

—Anatole M. Baranovsky, speech to the
United Nations General Assembly,
30 November 1953

10. Prof. Leon Kass reports a notable response to an assignment he had given students at the University of Chicago. Compose an essay, he asked, about a memorable meal you have eaten. One student wrote as follows:

I had once eaten lunch with my uncle and my uncle's friend. His friend had once eaten lunch with Albert Einstein. Albert Einstein was once a man of great spirituality. Therefore, by the law of the syllogism, I had once eaten lunch with God.

—Leon Kass, *The Hungry Soul: Eating and the Perfecting of Our Nature*
(New York: The Free Press, 1995)

11. Consider genetically engineered fish. Scientists hope that fish that contain new growth hormones will grow bigger and faster than

normal fish. Other scientists are developing fish that could be introduced into cold, northern waters, where they cannot now survive. The intention is to boost fish production for food. The economic benefits may be obvious, but not the risks. Does this make the risks reasonable?

—Edward Bruggemann, "Genetic Engineering Needs Strict Regulation,"
The New York Times, 24 March 1992

12. The multiverse theory actually injects the concept of a transcendent Creator at almost every level of its logical structure. Gods and worlds, creators and creatures, lie embedded in each other, forming an infinite regress in unbounded space.

This *reductio ad absurdum* of the multiverse theory reveals what a very slippery slope it is indeed. Since Copernicus, our view of the universe has enlarged by a factor of a billion billion. The cosmic vista stretches one hundred billion trillion miles in all directions—that's a 1 with 23 zeros. Now we are being urged to accept that even this vast region is just a miniscule fragment of the whole.

—Paul Davies, "A Brief History of the Multiverse,"
The New York Times, 12 April 2003

13. When Copernicus argued that the Ptolemaic astronomy (holding that the celestial bodies all revolved around the earth) should be replaced by a theory holding that the earth (along with all the other planets) revolved around the sun, he was ridiculed by many of the scientists of his day, including one of the greatest astronomers of that time, Clavius, who wrote in 1581:

Both [Copernicus and Ptolemy] are in agreement with the observed phenomena. But Copernicus's arguments contain a great many principles that are absurd. He assumed, for instance, that the earth is moving with a triple motion . . . [but] according to the philosophers a simple body like the earth can have only a simple motion. . . . Therefore it seems to me that Ptolemy's geocentric doctrine must be preferred to Copernicus's doctrine.

14. All of us cannot be famous, because all of us cannot be well known.

—Jesse Jackson, quoted in *The New Yorker*, 12 March 1984

15. The God that holds you over the pit of hell, much as one holds a spider or some loathsome insect over the fire, abhors you, and is dreadfully provoked; his wrath towards you burns like fire; he looks upon you as worthy of nothing else but to be cast into the fire; you are ten thousand times so abominable in his eyes as the most hateful and

venomous serpent is in ours. You have offended him infinitely more than a stubborn rebel did his prince; and yet it is nothing but his hand that holds you from falling into the fire every moment.

—Jonathan Edwards, "The Pit of Hell," 1741

16. Mysticism is one of the great forces of the world's history. For religion is nearly the most important thing in the world, and religion never remains for long altogether untouched by mysticism.

—John McTaggart, Ellis McTaggart, "Mysticism," *Philosophical Studies*, 1934

17. If science wishes to argue that we cannot know what was going on in [the gorilla] Binti's head when she acted as she did, science must also acknowledge that it cannot prove that nothing was going on. It is because of our irresolvable ignorance, as much as fellow-feeling, that we should give animals the benefit of doubt and treat them with the respect we accord ourselves.

—Martin Rowe and Mia Macdonald, "Let's Give Animals Respect They Deserve," *The New York Times*, 26 August 1996

18. If we want to know whether a state is brave we must look to its army, not because the soldiers are the only brave people in the community, but because it is only through their conduct that the courage or cowardice of the community can be manifested.

—Richard L. Nettleship, *Lectures on the Republic of Plato*, 1937

19. Whether we are to live in a future state, as it is the most important question which can possibly be asked, so it is the most intelligible one which can be expressed in language.

—Joseph Butler, "Of Personal Identity," 1736

20. Which is more useful, the Sun or the Moon? The Moon is more useful since it gives us light during the night, when it is dark, whereas the Sun shines only in the daytime, when it is light anyway.

—George Gamow (inscribed in the entry hall of the Hayden Planetarium, New York City)

SUMMARY

A fallacy is a type of argument that may seem to be correct, but that proves on examination not to be so. In this chapter we have grouped the major informal fallacies under four headings: (1) fallacies of relevance, (2) fallacies of

defective induction, (3) fallacies of presumption, and (4) fallacies of ambiguity. Within each group we have named, explained, and illustrated the most common kinds of reasoning mistakes.

1. FALLACIES OF RELEVANCE

- R1. Appeal to the Populace (*ad populum*): When correct reasoning is replaced by devices calculated to elicit emotional and nonrational support for the conclusion urged.
- R2. The Red Herring: When correct reasoning is manipulated by the introduction of some event or character that *deliberately misleads* the audience and thus hinders rational inference.
- R3. The Straw Man: When correct reasoning is undermined by the *deliberate misrepresentation* of the opponent's position.
- R4. The Attack on the Person (*ad hominem*): When correct reasoning about some issue is replaced by an attack upon the *character or special circumstances* of the opponent.
- R5. The Appeal to Force (*ad baculum*): When reasoning is replaced by *threats* in the effort to win support or assent.
- R6. Missing the Point (*ignoratio elenchi*): When correct reasoning is replaced by the mistaken refutation of a position that was not really at issue.

2. FALLACIES OF DEFECTIVE INDUCTION

In fallacies of defective induction, the premises may be relevant to the conclusion, but they are far too weak to support the conclusion. Four major fallacies are as follows.

- D1. Appeal to Ignorance (*ad ignorantiam*): When it is argued that a proposition is true on the ground that it has not been proved false, or when it is argued that a proposition is false because it has not been proved true.
- D2. Appeal to Inappropriate Authority (*ad verecundiam*): When the premises of an argument appeal to the judgment of some person or persons who have no legitimate claim to authority in the matter at hand.
- D3. False Cause: When one treats as the cause of a thing that which is not really the cause of that thing, often relying (as in the subtype *post hoc ergo propter hoc*) merely on the close temporal succession of two events.

- D4. Hasty Generalization (*converse accident*): When one moves carelessly or too quickly from one or a very few instances to a broad or universal claim.

3. FALLACIES OF PRESUMPTION

In fallacies of presumption, the mistake in argument arises from relying on some proposition that is assumed to be true but is without warrant and is false or dubious. Three major fallacies are as follows.

- P1. Accident: When one mistakenly applies a generalization to an individual case that it does not properly govern.
- P2. Complex Question: When one argues by asking a question in such a way as to presuppose the truth of some assumption buried in that question.
- P3. Begging the Question (*petitio principii*): When one assumes in the premises of an argument the truth of what one seeks to establish in the conclusion of that same argument.

4. FALLACIES OF AMBIGUITY

In fallacies of ambiguity, the mistakes in argument arise as a result of the shift in the meaning of words or phrases, from the meanings that they have in the premises to different meanings that they have in the conclusion. Five major fallacies are as follows.

- A1. Equivocation: When the same word or phrase is used with two or more meanings, deliberately or accidentally, in formulating an argument.
- A2. Amphiboly: When one of the statements in an argument has more than one plausible meaning, because of the loose or awkward way in which the words in that statement have been combined.
- A3. Accent: When a shift of meaning arises within an argument as a consequence of changes in the emphasis given to its words or parts.
- A4. Composition: This fallacy is committed (a) when one reasons mistakenly from the attributes of a part to the attributes of the whole, or (b) when one reasons mistakenly from the attributes of an individual member of some collection to the attributes of the totality of that collection.
- A5. Division: This fallacy is committed (a) when one reasons mistakenly from the attributes of a whole to the attributes of one of its parts, or (b) when one reasons mistakenly from the attributes of a totality of some collection of entities to the attributes of the individual entities within that collection.

End Notes

¹For a discussion of the methods of classifying fallacies, see Howard Kahane, "The Nature and Classification of Fallacies," in *Informal Logic*, edited by J. A. Blair and R. J. Johnson (Inverness, CA: Edgepress, 1980). For a more extensive theoretical treatment of fallacies, see C. L. Hamblin, *Fallacies* (London: Methuen, 1970); and J. Woods and D. Walton, *Argument: the Logic of the Fallacies* (Scarborough, Ont.: McGraw-Hill Ryerson, 1982). For a more detailed listing of the varieties of fallacies, see W. W. Fernside and W. B. Holther, *Fallacy: The Counterfeit of Argument* (Englewood Cliffs, NJ: Prentice-Hall, 1959), who name and illustrate fifty-one different fallacies; or D. H. Fischer, *Historians' Fallacies* (New York: Harper & Row, 1979), who distinguishes 112 different fallacies.

²Reported in *The New England Journal of Medicine*, 26 December 1996.

³Plato, *Apology*, 34; Jowett translation.

⁴Dan Brown, *The DaVinci Code* (New York: Random House, 2003).

⁵David Broder, "Deciding What to Do in Iraq Requires Thought, Not Gut Instinct," *The Washington Post*, 12 January 2007.

⁶www.Figarospeech.com, 19 March 2006.

⁷*The News & Observer*, Raleigh, NC, 5 January 2007.

⁸Constance Baker Motley, *Equal Justice Under Law* (New York: Farrar, Strauss & Giroux, 2001).

⁹Clyde Collins Snow, "'Kind' Racism," *The Sciences*, June 1997.

¹⁰Interview with Osama bin Laden, CNN, March 1997.

¹¹Peter Monaghan, "A Journal Article Is Expunged and Its Authors Cry Foul," *The Chronicle of Higher Education*, 8 December 2000.

¹²"White House Orders Silence on Meese," *The Washington Post*, 29 April 1988.

¹³"Bush Expected to Grant a Stay of Execution," *The New York Times*, 1 June 2000.

¹⁴*The Collected Works of Abraham Lincoln*, R. P. Basler, editor (New Brunswick, NJ: Rutgers University Press, 1953), Vol. 2, p. 283.

¹⁵Stephen Tumim, *Great Legal Fiascos* (London, Arthur Barker, 1985).

¹⁶Erwin Chargaff, in a famous letter to the editor of *Science*, *Science*, vol. 192, p. 938, 1976.

¹⁷Robert Sinsheimer, "Troubled Dawn for Genetic Engineering," *New Scientist*, vol. 168, p. 148, 1975.

¹⁸"Wisconsin to Cut Welfare," *Ann Arbor News*, 11 April 1992.

¹⁹Justice William Brennan, writing for the Court, *In re Winship*, 397 U.S. 358, 1970.

²⁰Fulton J. Sheen, a well-known Catholic bishop, remarked that it would be as fatuous for Albert Einstein to make judgments about God as it would be for Sheen to make judgments about relativity theory. "Both of us," Sheen wrote, "would be talking about something we know nothing about." Cited by Laurence A. Marschall, in *The Sciences*, August 2000.

²¹The Latin name was originated by John Locke, whose criticism was directed chiefly at those who think that citing learned authorities is enough to win any argument, who think it "a breach of modesty for others to derogate any way from it, and question authority," and who "style it impudence in anyone who shall stand out against them." That argument Locke named *ad verecundiam*—literally, an appeal to the *modesty* of those who might be so bold as to oppose authority (J. Locke, *An Essay Concerning Human Understanding*, 1690).

²²For an extended and penetrating analysis of the argument *ad verecundiam*, see Jim Mackenzie, "Authority," *Journal of Philosophy of Education* 22 (1988).

²³C. Loring Brace, "Faculty Is Powerless," *The New York Times*, 24 February 1998.

²⁴Douglas E. McNeil, "School Prayer Fallacy," *The New York Times*, 10 June 1998. And some suggested that the 1954 insertion of the words "under God" into the Pledge of Allegiance was the cause of the host of social ills that followed! See Peter Steinfelds, "Beliefs," *The New York Times*, 25 October 2003.

²⁵I. Harvey, "Death Penalty Ethics," *The New York Times*, 13 February 1996.

²⁶Ernest van den Haag, "Make Mine Hemlock," *National Review*, 12 June 1995.

²⁷Zev Simpser, "A Murder Is a Murder," *The New York Times*, 3 May 2002.

²⁸John Bedder, reported in "Fried and Salty, Yessir, Matey, but Truly English," *The New York Times*, 9 March 1993.

²⁹Elizabeth Kolbert, "Talk of the Town," *The New Yorker*, 17 November 2003.

³⁰Barbara Commins, "The Slide into Poverty," *The New York Times*, 10 September 2000.

³¹Jeremy Rifkin, "Issues in Genetic Research," *The Chronicle of Higher Education*, 3 July 1998.

³²In his treatise, "Logic," which appeared in the *Encyclopaedia Metropolitana* (London, 1828).

³³Weng Shou-jen, *Record of Instructions* (c. 1518).

³⁴See David Hume, "Sceptical Doubts Concerning the Operations of the Understanding," in *An Enquiry Concerning Human Understanding*, sec. 4 (1747).

³⁵Richard Robinson, *An Atheist's Values* (Oxford: Oxford University Press, 1964), p. 121.

³⁶*The New Yorker*, 3 March 2003.

³⁷In the work whose title is generally given as *On Sophistical Refutations*.

³⁸*The New York Times*, 18 June 1996.

³⁹Thomas DiLorenzo, *The Real Lincoln: A New Look at Abraham Lincoln, His Agenda, and an Unnecessary War* (Prima Publishing, 2002).