Chapter 5

Fallacious Reasoning—3

Let’s now continue our discussion of fallacious reasoning with several fallacies that generally fall into the broad category invalid inference.

1. Hasty Conclusion

The fallacy of hasty conclusion is committed when we draw a conclusion from relevant but insufficient evidence. This fallacy is committed in many different ways and circumstances, ranging from judging political candidates primarily on the basis of 30-second TV commercials to concluding that a neighbor is having an affair on the basis of one or two suspicious clues.

Of course, if we mere human beings were as lucky as Hercule Poirot or Miss Marple, or the other famous fictional detectives, our overly hasty conclusions would frequently turn out to be correct. Here, for example, is the archetype of the great fictional detective, Sherlock Holmes, making one of his amazing “deductions” when first introduced to Dr. Watson in Sir Arthur Conan Doyle’s A Study in Scarlet:

Here is a gentleman of the medical type, but with the air of a military man. Clearly an army doctor, then. He has just come from the tropics, for his face is dark, and that is not the natural tint of his skin, for his wrists are fair. He has undergone hardship and sickness, as his haggard face says clearly. His left arm has been injured. He holds it in a still and unnatural manner. Where in the tropics could an English army doctor have seen much hardship and gotten his arm wounded? Clearly in Afghanistan.

Figures don’t lie, but liars figure.
—Old saying

There are lies, damn lies, and statistics.
—Benjamin Disraeli

It’s very difficult to make predictions, especially about the future.
—Casey Stengel

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What Holmes observed about Watson was consistent with all sorts of other possibilities that in real life might have been actualities. Doctors don’t look that much different from other professionals. Some men with a military air (whatever that might be) never have been in the military. Among Englishmen in those days, when Britain ruled the waves, naval military men were just as common as army types. Tanned faces can result from exposure to nontropical sunlight. A still and unnatural arm carriage may be the legacy of a childhood accident, a haggard expression due to anguish at the loss of a close relative. And even supposing the person in question were a military man who had been wounded in battle in Afghanistan, he still might just have come from a funeral in Italy, South Africa, Brighton, or Timbuktu. The conclusion drawn by Holmes may have been a good guess, but stated with the typical Holmes air of infallibility, it surely was hasty.

Fallacies are endemic to political campaigns, and hasty conclusions are no exception. During the 2008 presidential primaries, Hillary Clinton, usually very controlled in public, teared up when asked a personal question about how the rigors of campaigning affected her, and that was enough for one blogger to comment, “If she is breaking down now [before being elected] . . . then how will she act under pressure as president?” The implied conclusion that she would crack under pressure as president is hasty indeed (not to mention a sexist stereotype), particularly in light of the steely emotional control she invariably exhibits in public.

2. SMALL SAMPLE

Statistics frequently are used to project from a sample to the “population” from which it was drawn. This is the basic technique that underlies several kinds of inductive reasoning and is the method employed by most polls—including those conducted by Gallup, Harris, and the Nielsen television ratings. But when we accept a conclusion based on a sample that is too small to be a reliable measure of the population from which it was drawn, we are guilty of the fallacy of the small sample, a variety of the fallacy hasty conclusion. No sample of 100 to 500 voters, for instance, can possibly be depended on to accurately reflect the entire voting population of the United States.

Scientists, of all people, aren’t supposed to commit statistical fallacies (or any fallacies, for that matter), but they’re human. In an interesting, one might say comical, example, researchers drew a conclusion about the mating vocal responses of primate species based on a sample of three human couples (each observed engaged in sex exactly once), a pair of gibbons, and one troop of chacma baboons.

The general question as to when a sample is sufficiently large is extremely difficult to answer and is a matter of great interest to statisticians and other scientists. Obviously, though, all other things being equal, the larger the percentage of a population from which a sample is drawn, the more confident we can be that it reflects that population as a whole.

3. UNREPRESENTATIVE SAMPLE

In addition to being large enough, a good sample should be representative of the population from which it is drawn. Indeed, the more representative a sample is, the smaller it needs to be to be significant. When we reason from a sample that isn’t sufficiently representative, we commit the fallacy of the unrepresentative sample (sometimes called
Sample size does not overcome sample bias.
—Saying popular among statisticians

the fallacy of biased statistics, although that name also applies to cases where known statistics that are unfavorable to a theory are deliberately suppressed).

The example just mentioned, about primate mating responses, illustrates the fallacy of the unrepresentative sample as well as that of the small sample. For one thing, only three of the dozens of primate species were checked—chimps, gorillas, lemurs, tarsiers, and so forth, may be quite different. (In fact, orangutans turn out to be much different from all other primates in their sex practices.) For another, there is plenty of reason to believe that no sample of three human couples could possibly be representative of all Homo sapiens, given the tremendous variety of sex practices engaged in by members of our species.

As usual, relevant background information is crucial when we try to determine whether a sample is likely to be representative of the population from which it was drawn (or is likely to be sufficiently large, for that matter). Good reasoning always requires good background information.

4. Questionable Cause

We commit the fallacy of questionable cause when we label something as the cause of something else on the basis of insufficient or unrepresentative evidence, or when doing so contradicts well-established, high-level theories.1 (Questionable cause is a broader version of the traditional fallacy post hoc, ergo propter hoc, literally “after this, therefore because of this.” Note that the fallacy questionable cause often overlaps that of hasty conclusion or of small sample.)

As just mentioned, it isn’t easy to determine whether a sample is sufficiently large or representative. This is true in particular because judgments on these matters often depend on seeing the relevance of background information and bringing it to bear. All too often, people make judgments about causal connections on the basis of observed correlations, often quite small, that contradict very general, very well-confirmed, and quite easily understood higher-level theories about what sorts of causes can result in what kinds of effects. People often do so because they lack the relevant and accurate background information; sometimes they are motivated by wishful thinking to ignore contrary evidence or theories (a topic to be discussed at some length in the next chapter).

Many people have little or no understanding of the general way in which things work in this world. As they experience life, they don’t try to figure out how things work in general or attempt to gain some of the knowledge that has been gleaned over time by

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1This doesn’t mean that these higher-level theories are exempt from refutation. Evidence that persistently runs contrary even to the highest-level, most general scientific theories eventually, and sometimes rather swiftly, overturns them, as, for example, old ideas about the motions of continents, and related matters, were overturned by evidence favoring the currently held theory concerning plate tectonics.
others. Instead, they attend almost exclusively to immediate events and problems. They may see science as some kind of magical box from which gadgets like television sets, computers, and jet planes are extracted by bearded drudges with German accents or by youthful nerds. Having relatively little background information to bring to bear on experience, they are unable to assess either the adequacy of evidence or the possibility that a general idea might be true. Think, for instance, of those who believe in ESP despite the failure of every scientific test to confirm it.

Or consider the apparent rise in autism cases that certain groups have blamed on child immunizations, particularly the measles, mumps, and rubella vaccination (MMR). They reason that since the rise in autism cases has coincided with an increase in recommended childhood vaccinations, certain vaccines must be the cause of autism in some children. The MMR immunization, given to toddlers between 15 and 17 months, comes at about the same time that parents begin to observe signs of autism. But this low-level reasoning fails to take into account the fact that autism typically begins to emerge at the end of the second year, whether the child is immunized or not, as rigorous scientific studies have shown. Yet the coincidental occurrences of autism at the time the vaccine is given, plus the media coverage of the plight of autistic children, have persuaded many people that vaccinations are the cause.

For many people economics is just as baffling as the hard sciences. Critics were inclined to blame the second President Bush for the downturn in the economy during his last year in office. But the fact that the country slid into a recession during his last year doesn’t prove that his policies caused the economy to slow down. True, his administration sank billions of dollars into the Iraq War, but wars tend to stimulate the economy in the short run. (The long run is another matter, as future generations will discover when the burden falls on them). The reasons are more complex, and economists are still

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sorting them out, but one cause was certainly the crash of the bloated housing market. When the housing bubble burst in 2007, inflated real estate sank like a stone, home foreclosures skyrocketed, the stock market skittered around, and the nation's largest financial institutions teetered on the brink of bankruptcy as they looked for bailouts from the government. But President Bush did not cause the chain reaction. Although his administration certainly contributed to it by reducing government oversight of the financial industry, the groundwork was laid by previous administrations that deregulated financial markets over a period of thirty years, allowing an unregulated shadow banking system of hedge funds and investment banks to evolve, bypassing the safety regulations imposed on traditional banks, and thus paving the way for the credit crisis in 2008.

In hindsight, the bust after the boom now seems inevitable, but the housing debacle was only one reason for the downturn. The economic well-being of the United States depends on many complex factors, here and around the world, that a president does not and cannot control. This doesn't mean that by promoting unsound economic policies a president cannot be a part of the cause of an economic downturn. The point is that it is simplistic to give him the lion's share of the blame without further argument.

The fallacy questionable cause also sometimes is committed because items are incorrectly classified—poorly sorted into different kinds. Any items, no matter how different from one another, have some things in common, so that there always is some reason for grouping them together in our thoughts. When we classify items to discover cause/effect relationships, we need to make sure we have bunched together just the right sorts of cases. In some areas of the United States, for instance, a larger percentage of nonwhite children do poorly in school compared to students who are white, a fact that has led some people
to conclude that being nonwhite is the cause of their doing less well in school (that there is a genetic difference involved here), an interesting and very serious example of the fallacy questionable cause.\(^3\)

Issue campaigns often lapse into hasty conclusions based on questionable causes that support their platforms. In 2006 the Brady campaign, the group behind the Brady Law requiring background checks for handgun owners, claimed that “gun laws work.” As evidence they cited the decline in violent crimes since the Brady Law passed in 1993 and the ban on assault weapons in 1994. But arguing that gun laws caused the decline fails to take into account other factors, like increased police protection and community watch programs. In fact, the Committee on Law and Justice of the National Research Council could find no “causal relationship between the ownership of firearms and the causes or prevention of criminal violence.”\(^4\)

As might be expected, the statistical variety of questionable cause, in which a mere statistical correlation is taken to provide proof of a causal connection, is quite common. It’s true that every statistical correlation has some significance and, in the absence of reasons to the contrary, increases the likelihood (probability), however slightly, that there also is a causal connection between the things correlated. But when there are reasons to the contrary, or when the statistical sample in question is too small or unrepresentative, we make a mistake in jumping to the conclusion that we’ve found a causal connection.

Sometimes alleged causal connections based on statistical surveys are too silly to take seriously, because they are so obviously contrary to well-supported background beliefs. An example is the theory that smoking marijuana causes college students to get better grades, based on one dubious statistical study in which marijuana smokers averaged slightly higher grades than nonsmokers. This theory actually gained modest acceptance in some, ah, . . . “high”-minded circles during the 1970s. (And what are the background beliefs that should make you doubt smoking dope causes an increase in grades?)

It’s often very hard, if not impossible, for the layperson to evaluate statistical claims on complicated or technical subjects. Sometimes, the best that nonexperts can do is try to find the best professional advice they can. But sometimes they can evaluate these claims by employing the method described in the following excerpt from a *Psychology Today* article on statistical reasoning:

> “What do the other three cells look like?” This slogan should always be invoked to assess covariation [the statistical connection] of events. . . . To determine the effectiveness of chiropractic treatment, for example, one needs numbers from

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\(^3\)Notice that in the United States, nonwhite is an ethnic, not a racial, category. Most Americans who think of themselves as African American are racially both of white (European) and African American (African) descent; a few are of African and Asian stock; and a very few are descended from European, African, and Asian forebears (Tiger Woods being a well-known example). Similar remarks apply to members of many other groups. Mexican Americans, for example, tend to be descended from European (chiefly Spanish) and Asian forebears. Interestingly, the exact or even approximate place of origin of the Asian peoples who originally populated Mexico is hotly disputed by anthropologists and other scientists.

\(^4\)Example taken from *unSpun, Finding Facts in a World of Disinformation*, an excellent and lively guide to unraveling deception in politics and advertising, by Brooks Jackson and Kathleen Hall Jamieson.
Analogical reasoning thus is very similar to induction by enumeration. Indeed, the latter can be thought of as a kind of analogical reasoning.  

Recall, though, the earlier discussion of the fallacy questionable cause. It isn’t easy to be positive that it’s the coffee keeping us awake.

Most of us are impressed when we see first cell statistics and fail to realize that we usually need to know about one or more of the others to determine whether we’ve found a causal connection or just a statistical one. Reading, say, that about two-thirds of those treated by chiropractors get better proves nothing about the effectiveness of chiropractors; it may be that two-thirds of those with similar complaints who were not so treated also got well, or even that three-quarters did (in which case we would have some evidence that chiropractors harm patients more than they help them.)

5. **Questionable Analogy**

We reason by *analogy* when we conclude from the observed similarity of two or more items in some respects to their similarity in another. Sports fans, for example, reasoned by analogy when they concluded that the 2008 Olympic Games would be fun to watch, given that they were in previous years. Caffeine lovers do so when they reason from the fact that coffee has kept them awake several nights in a row to the conclusion that drinking it again tonight will keep them awake. The general form of such reasoning is that the items mentioned are alike in certain respects, so they will be alike in some other way.

But we aren’t always justified in reasoning by analogy. When we do so anyway, we are guilty of the fallacy of *questionable analogy*, sometimes referred to as *faulty comparison*.

Analogical reasoning can be fallacious for several different reasons. The sample on which it is based may be too small or not sufficiently representative, it may conflict with conclusions drawn by higher-level reasoning, or there may be a lack of relevant similarity between the items implied to be alike. Here is an example based on a much too small sample:

I’ve won at blackjack twice in a row by drawing a card when holding cards totaling 18, so I conclude by analogy that I’ll win next time I draw on 18.

This analogy also is defective because it ignores the higher-level theory of probability, which says that your chances of success when drawing on 18 are quite low.

Some analogies seem to be apt on the surface but collapse under closer scrutiny. For instance, in an op-ed article for the *New York Times* (January 1, 2007), the historian Arthur Schlesinger, Jr., used this analogy to illustrate the folly of ignoring the lessons of the past: “As persons deprived of memory become disoriented and lost, not knowing where they have been and where they are going, so a nation denied a conception of the past will be disabled in dealing with its present and its future.” Although both examples deal with a loss of past experience, the first involves forgetting all experience,

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6. Recall, though, the earlier discussion of the fallacy questionable cause. It isn’t easy to be positive that it’s the coffee keeping us awake.
as Alzheimer’s patients do, but the second involves ignoring past experience—quite a different phenomenon.

In some cases, the analogy is so wide of the mark that its questionable nature should be obvious. For example, after the prisoner abuse scandal at the Abu Ghraib prison, Saudi Arabian Daud al-Shiryan was quoted in the media saying, “This will increase the hatred of America, not just in Iraq but abroad. . . . Abu Ghraib was used for torture in Saddam’s time. People will ask now what’s the difference between Saddam and Bush. Nothing!” President Bush didn’t authorize the prison abuse, to begin with, and the abuse that did occur, though bad enough in its own right, was in no way comparable to the torture and killing that went on under Hussein.

Not uncommonly, questionable analogies surface in a court of law. In 2003 many American tourists were annoyed to discover that credit card companies were charging a currency conversion fee for items purchased abroad. One irate customer filed suit against Visa and MasterCard for intentionally hiding the fee from cardholders. (It only appears—occasionally—in cardholder agreements, buried in legal jargon.) The attorney for MasterCard argued, “That’s not hiding, that’s not concealing—that’s how business is done in this country.” The defense went on to explain that “while consumers naturally understand that commercial suppliers of goods and services impose a mark-up over their costs, the proposed decision would condemn as ‘embedding’ the standard practice that a seller tells its customer its price to them, not which part of the price reflects its cost and which part its mark-up.” However, to compare hidden credit card fees to the undisclosed markup of commercial goods is certainly questionable. The consumer knows the cost of an item in a retail store because it is clearly marked on the price tag, but when using a credit card abroad, the consumer has no idea of the total amount because of the hidden conversion fee.

Some analogies are easily seen to be fallacious, others as clearly apt. But the evaluations of still others often require a good deal of thought. Consider this analogy in a letter to the editor arguing against stricter handgun control laws: When a drunk driver runs over a child, we go after the driver, not the car. When someone kills a child with a gun, we go after the gun. But shouldn't we go after the person who murders with a gun, not the gun itself? In this case, there clearly is a relevant resemblance between the two cases—killing with a car or with a gun—so there is something to the analogy. But there also are important differences, as there often are, and the question is whether they are both relevant and sufficient to make the analogy questionable. For example, private autos are an extremely important kind of transportation in our society; banning their use would dramatically change all sorts of things in everyday life. Handguns serve few legitimate purposes in private hands; AK-47s and the like, none at all; restricting their use would make relatively little difference in most of our lives. Furthermore, most auto deaths result from accidents or negligence, rarely from deliberate intent to murder. Guns frequently are used deliberately to murder other people. Note that the letter writer omits the fact that, when people use guns for nefarious purposes, we go after the gun user as well as the gun itself, and also the fact that we outlaw autos believed to be unsafe to drive. The point of all of this is that we don’t want to label analogies questionable, or apt, too quickly; in some cases we need to consider all sorts of factors. Good critical reasoners need to become adept at bringing background information to bear when evaluating analogies, just as most other sorts of reasoning.
This example also illustrates the difficulty in bringing one’s relevant background beliefs to bear when evaluating an argument. All of the relevant differences just mentioned are common knowledge, yet we all often fail to bring information of this kind to bear when evaluating an argument. (Did you in this case?)

Before turning to a discussion of other fallacies, perhaps it should be noted that we need to distinguish between explanatory analogies used to explain and argumentative analogies used to prove a point. When we argue or reason analogically, we present evidence for a conclusion; when we use an analogy to explain, we merely liken the thing explained to something already familiar. In Plato’s famous analogy of the cave, for example, the people in the cave who merely see the shadows of things are likened to those who restrict themselves to the ever-changing world of everyday experience, while the people who come out into the sunlight and see the objects themselves are likened to the philosophers who reason to the unchanging reality that lies behind everyday experiences. The analogy explains Plato’s ideas about a world beyond that of mere everyday experiences, but it doesn’t prove that there is such a world or in any way argue that there is. (Plato himself very likely intended his cave myth to be explanatory, not argumentative, but it often is construed otherwise.)

The point here is that we shouldn’t accuse those whose analogies are intended to explain of being guilty of the fallacy questionable analogy. (They may, of course, serve very poorly to explain, but that is another matter.) Anyway, as just remarked, explanatory analogies sometimes are mistakenly taken to prove what they merely explain, and in this case we are indeed justified in accusing those who do this of the fallacy questionable analogy.

Finally, we need to notice that in everyday life it often is difficult to determine whether an analogy is intended to explain or to prove; no doubt some are intended to serve both purposes. In any case, as with explanations in general, it is hard to separate the mere explanatory nature of an analogy from its power to persuade. (Recall, for example, the salesperson’s explanation about cameras in Chapter 1, where the intent was to persuade a customer to buy a camera, not merely to explain the differences between one set and another.)

6. Questionable Statistics

Statistics always seem so precise and authoritative. It sounds so much more believable, for instance, to claim that the typical child watches an average of 4,286 acts of violence on TV by age 18 rather than just that kids typically watch an awful lot of TV violence. But how could anyone know such an exact fact? There would have to be a lot of guesswork and extrapolation from very small samples to arrive even at an informed rough estimate as to these sorts of matters. This doesn’t mean that we ought simply to dismiss these statistics; it just means that we have to understand their limitations.

Statistics on the state of the economy are a case in point. Take the ones published by the federal government on business conditions in the United States. One of the major problems with these statistics is that their margin of error (not always provided) often is greater than the “significant” differences they report. This becomes evident when we consider that the government’s later revisions of its own figures often reflect a change larger than the alleged margin of error.
In addition, problems arise from the need to use a base year in determining long-run trends. Those who want to show that a given year has had a high rate of growth can choose a low base year; those intent on proving a low rate of growth, a high base year. Meanwhile, the precisely true rate of growth may remain in doubt.

In the case of figures concerning the gross national product, we have several other reasons for being suspicious. One is that a good deal of commerce in the United States today is illegal. Think only of racketeering, gambling, drug traffic, prostitution, and the hiring of illegal aliens to do migrant farm labor or household cleaning and other low-paying, tedious, and often backbreaking jobs. Reliable statistics concerning illegal activities are by their nature hard to come by. Calculating, say, the commerce in illegal drugs has to be done indirectly, by reference to the sale of legal drug equipment, drug busts, and so on. Another reason for suspicion is that a good deal of otherwise legal commerce is done “off the books,” so that no taxes need to be paid or so that restrictive laws can be avoided. How are we to assess the value of goods when one kind is bartered for another?

Statistics on corrupt activities are just as hard to come by, particularly in a country like Russia, where corruption is endemic, and bribery is the norm rather than the exception (Russians shell out bribes for all manner of things, from paying off traffic cops to getting better medical treatment.) So when Transparency International, a group monitoring corruption, estimated that corruption in Russia had grown sevenfold from 2001–2006 or that the value of bribes paid to bureaucrats was almost equal to the country’s revenue in a given year, we have to assume that these are little more than guess-timates. The same goes for estimates made by INDEM, an independent Russian think tank, that businesses in Russia spend 7 percent of their budget on bribes. How is it possible to come up with these statistics when bribery, by its very nature, usually occurs under the table?

Sometimes statistics are based on soft information and are thus questionable. For years doctors have urged us to reduce our intake of fatty foods, but a 2006 study funded by the Women’s Health Initiative (WHI) seemed to contradict this advice. The study—following 48,835 women aged 50 –79 for an average of 8.1 years—revealed no significant statistical difference in the rates of colorectal cancer, heart disease, or stroke between the group on the low-fat diet and the comparison group on the normal diet. But the study was problematic because the data were drawn from the participants’ memories of what they ate—sometimes up to a year earlier! (Do you remember what you ate last week, let alone a year ago?) Evidence that their memories were unreliable becomes clearer when we consider this finding: Women who weighed 170 pounds on average claimed they consumed 1,700 calories a day at the beginning of the study and 1,500 calories at the end. Yet these women lost only 1 pound over many years in the WHI study. How could that be? Either their memories were faulty or they were shaving off calories. More likely, they consumed 500 –700 more calories a day than they reported. Given the apparent unreliability of these reports, it is questionable that low-fat diets fail to protect women from certain illnesses. No matter, this dubious science made headlines and probably allowed many women to rationalize eating the fatty foods they craved.

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The government’s figures on unemployment also need to be viewed with a good deal of suspicion. These figures are calculated partly on the basis of information gathered via polls of “representative” individuals. How these people respond depends on the precise wording of the questions they are asked (a point soon to be discussed further), and this in part depends on what the government considers to be full-time, compared to part-time, employment and who is said to be seeking employment, compared to those who have given up the search. (It also depends on how truly representative the government’s samples happen to be.) Early in 2008, for instance, the Bush administration was upbeat about the low unemployment rate of 4.9 percent, pretty good considering that the country was sliding into a recession. A closer look, though, revealed that long-term unemployment of six months or more rose to 18.3 percent—a more accurate and ominous indicator of the serious economic downturn. The hundreds of thousands of people out of work for 27 weeks or more were not included in the unemployment rate of 4.9 because they had not applied for work in the four weeks preceding the survey.

All of this certainly does not mean that government statistics on commerce and employment should be tossed into the nearest wastebasket. But it does mean that precise official figures should be taken for what they are: the best approximations we have of business activity—valuable primarily in showing very-long-term trends, but often calculated so as to serve short-term political interests.

By way of contrast, consider a correctly cautious claim typical of those frequently made by scientists (Science News, January 19, 1991): Scientists using sophisticated techniques to determine the age of ancient cliff drawings in west Texas estimated that the drawings were painted “3,865 years ago, give or take a century” (italics added).

Finally, it’s important to have some idea as to which sorts of statistics can be known, even in theory. Some statistics simply are unknowable, at least by human beings. How, for instance, could Dr. Dean Edell (whose TV and radio programs usually provide excellent information about health and medical matters) know that the average person tells 13 lies per week, as he stated on one of his programs? How could anyone know? Anyway, here is a letter one of the authors of this text received several years ago that contains examples of unknowable statistics it would be hard to top:

Dear Friend: In the past 5,000 years men have fought in 14,523 wars. One out of four persons living during this time have been war casualties. A nuclear war would add 1,245,000,000 men, women, and children to this tragic list.

It’s ludicrous to present such precise figures as facts. No one knows (or could know) the exact number of wars fought so far, to say nothing of the number of war casualties. (Does anyone even know the true casualty rates just for all of the wars that have occurred in the past ten years?) As for the numbers in a nuclear conflict, the casualty rate would depend on who fought such a war, and, in any event, it is a matter on which even so-called experts can only engage in the wildest sorts of speculations.

7. Questionable Uses of Good Statistics

As we’ve just seen, statistics that are obviously questionable are a problem. But perfectly good statistics also can cause trouble—for two reasons. The first is the inability of so many people to understand the significance of this statistic or that, made worse by the natural tendency in all of us to pay attention to statistics that support conclusions we
already have drawn. The second is the ability of charlatans to bamboozle the rest of us via cleverly employed statistics. (That’s the import of the old saying that figures don’t lie, but liars figure.)

The ways in which we confuse ourselves seem to be limitless. HMO lobbyists helped us do this, for example, when they tried to dissuade members of Congress from regulating HMOs through patients’ rights bills. They cited statistics from polls conducted by the American Association of Health Plans (AAHP)—the main HMO trade association—revealing that most Americans were satisfied with their managed care plans. In one sense, then, the AAHP and their lobbyists were right. A large majority of Americans have historically claimed to be satisfied with the health care they receive from their insurance providers, including HMOs.

But the AAHP suppressed all sorts of relevant facts that point to a different conclusion, including statistics from other polls. To start with, a 1999 CBS poll found that only 69 percent of those insured by HMOs were satisfied with their health care compared to 86 percent of those insured by more traditional fee-for-services plans. In addition, more specific surveys reveal far greater dissatisfaction with HMO care. A 1998 Kaiser Family Foundation/Harvard University poll found that 53 percent of the public said that, in general, HMOs made it harder than traditional plans to get care, as compared to only 29 percent who said it was easier, and that 62 percent claimed HMOs made it more difficult to see medical specialists, with only 23 percent saying it has become easier. Similarly, a 1998 CNN/Time poll found that 43 percent of those interviewed believe health-care coverage had gotten worse during the previous five years (when HMOs made big inroads into the health-care market), with only 18 percent saying it had improved. This poll also found that 64 percent of respondents believe health-care costs have increased, only 11 percent that they have decreased.

We also need to notice that the AAHP lobbyists neglected the obvious thought that it isn’t surprising a majority of Americans are satisfied with their health plans, given that at any particular time most of us are not experiencing serious health problems. A more relevant statistic would be one concerning what percentage of those who have had serious health problems are satisfied or dissatisfied with HMO coverage as compared to the more traditional fee-for-service plans still offered, say, by some Blue Cross/Blue Shield organizations. (Of course, as usual, those lacking relevant background information, even of the kind that might lead them to suspect that the AAHP might be concealing relevant facts, are fair game easily taken in by sharp operators.9)

The misuse of statistics is just as common in economics as it is in medicine. For instance, a libertarian defending the current economy on a radio talk show claimed that less than 10 percent of Americans used to own stocks, but now up to 45 to 50 percent do. Thus, an ordinary wage earner who saves can take part in the increase in wealth the stock market provides. Although his figures are about right, he neglects two important points. First, the 45 to 50 percent includes retirement funds invested by companies, not individuals—the ordinary earner simply draws a pension from the invested fund. Second, a tiny portion of stockholders own most of the stock and get rich, and the gap between the rich and the rest of us has been getting a good deal larger.

9For more information on this topic, see, for instance, American Prospect, December 20, 1999 issue.
Statistics seem to baffle almost everyone. Several years ago, when 200 educators were asked what percentage of children read at grade level or below, 78 percent failed to provide the correct answer—50 percent. Even teachers have a hard time keeping straight on the difference between comparative and absolute scales.

Another comparative rating that causes confusion is the IQ rating: Half of those who take the test must be rated at 100 or below, given that 100 merely marks the halfway point in results.

8. Polls: An Important Special Case

A well-conceived and well-executed poll can be a fruitful way to find out all sorts of things, from the voter strength of a political candidate to Fido’s preferences in dog food. Unfortunately, not all polls are created equal.

One problem is that the way in which a question is asked seriously influences the answers one can expect. It is extremely difficult, if not impossible, to word a question in a way that is completely neutral. At the height of the Watergate scandal, for instance, a Gallup poll asked the question

Do you think President Nixon should be impeached and compelled to leave the presidency, or not?

Thirty percent said yes. But a Pat Caddell private poll asked the question this way:

Do you think the President should be tried, and removed from office if found guilty?

Fifty-seven percent answered yes to that one. So 30 percent answered yes to the question worded one way, 57 percent when the same question was put another way.

Information left out of questions can skew poll results enormously. Here, for example, are two different questions on late-term abortion that had radically different responses.¹⁰

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¹⁰Quoted in “Framing the Abortion Issue,” Extra!, July/August 2007.
An ABC poll asked “Do you think the late-term abortion procedure known as dilation and extraction, or partial birth abortion, should be legal or illegal?” Sixty-two percent said “illegal.” But a follow-up question was asked, adding additional information. “What if it would prevent a serious threat to the woman's health?” Only 33 percent responded “illegal” to this question.

The importance of framing the issue has not escaped those intent on skewing poll results one way or the other. Here, for example, are a couple of loaded question in the “2000 Official NRA Gun Owners Survey”:

- Do you think gun owner names should be subject to surprise inspection by the Bureau of Alcohol, Tobacco, and Firearms?
- Do you think gun owners like you should be required to pay expensive liability insurance for every gun you own?

What gun owners in their right minds would answer no to these questions?

Of course, when it comes to slanted poll questions, the Democratic and Republican Parties take a back seat to no one. Here is an example from the 1999 mailings conducted by the Democratic National Committee of the Democratic Party:

- Should the projected budget surplus be used to support tax cuts that are weighed more heavily toward the rich?

What voters, other than the very rich, would answer yes to this question?
Many surveys ask biased questions to make something seem more popular than in fact it is, because of the “bandwagon” effect of being popular (discussed in the next chapter). An egregious example surfaced during the antitrust trial in 1999 against Microsoft Corporation when the government accused the company of chicanery in Microsoft’s attempt to make Bill Gates look good in a Senate hearing in 1998. A Microsoft witness, Richard Schmalansee, cited a survey of independent software vendors who overwhelmingly agreed that Microsoft should hard-wire its web-browsing software directly into its Windows operating system. But the government’s lead counsel, David Boies, brought out under cross-examination that the poll was the brainchild of Microsoft’s top technologist, Nathan Myhrvold, in response to the following request from Bill Gates: “It would HELP ME IMMENSELY to have a survey showing that 90 percent of developers believe that putting the browser into the (operating system) makes sense” (February 14, 1998).

The next day Myhrvold replied by e-mail: “I think that it is crucial to make [sure] the statement we ask people about in the survey . . . is worded properly. Saying ‘put the browser in the [Windows operating system]’ is already a statement that is prejudicial to us. The name ‘browser’ suggests a separate thing.” Instead, Myhrvold decided on “a more neutral question about how internet technology needs to merge with local computing.” (The issue of integration is central to the charges brought against Microsoft by the Department of Justice and 19 states.) Had the survey questions not been manipulated to elicit the desired response, the software vendors might have answered differently.

And poll results can be twisted to distort the findings. For example, at one point in the run-up to the 2008 presidential primaries, 53 percent of Republican voters rated Rudy Giuliani as the strongest leader in a poll conducted by the Washington Post. But political opponents could have undermined Giuliani by claiming that 47 percent of the voters didn’t think he was a strong leader. Sometimes polls are only as trustworthy as the people who interpret them.

The biggest problem with polls, though, is the difficulty of tapping a truly representative sample. The 1936 Literary Digest poll, based on names lifted from telephone directories and auto registration lists, is perhaps the most famous example of an extremely biased poll. It predicted that Alf Landon would defeat Franklin Roosevelt, while the actual result was a tremendous landslide for Roosevelt. The magazine (which went out of business shortly afterward—questionable cause?) failed to take into account the fact that few people in the bottom half of the American population had telephones or autos in those days, so that their sample was completely unrepresentative of American voters.

Of course, the art of polling has come a long way since 1936, or even 1948, when polls predicted an easy victory for Thomas E. Dewey over Harry Truman. The Chicago Tribune—whose motto, incidentally, was and still is “The World’s Greatest Newspaper”—was so sure Dewey would win that it grossly misinterpreted early returns and printed one of the most infamous headlines in newspaper history—“Dewey Defeats Truman”—which an exultant Truman held up to the crowd at his victory celebration.
But it still is difficult to get a representative sample of the voting population by polling only 1,500 or so potential voters—the standard practice today. In theory, a very carefully selected sample of roughly this size should be almost as reliable as one of 15,000 (a poll of this size would be much too expensive and is never conducted). But in practice, for all sorts of reasons, things frequently don’t work as planned. This doesn’t mean that we should not pay attention to polls. They often are the best or even the only way we have of testing the water. It just means we have to pay heed to them in an intelligent manner. A presidential election poll taken in September is of much less value, other things being equal, than one conducted in October; polls paid for by one side or the other are worth less than those conducted by truly independent organizations. But most important, we have to remember that even the best polls have a batting average well below 100 percent.

As recently as 2008, the polls in the New Hampshire primary got it wrong when they had Barack Obama ahead of Hillary Clinton by a comfortable margin of 8 percent right up to the election. But Clinton beat Obama by 12 points. Apparently the polling methodology was sound because John McCain’s victory was accurately predicted almost to the exact percentage in the Republican primary. In the Democratic primary, though, it seemed the polls did not sufficiently take into account the fact that poorer, less well-educated white voters are less likely to participate in surveys than whites who are better off financially and better educated. Although samples are usually adjusted to offset this tendency, the polls did not adequately factor in the added variable that the whites who don’t take part in surveys tend to have more negative feelings about blacks than those who do. Sometimes polling is such a complicated affair that even pollsters with the most refined methodologies get it wrong. They got it right for the election, though, when they accurately predicted Barack Obama’s victory.

Note, by the way, that there is no such thing as a “poll fallacy,” even though, as just illustrated, polls do give rise to fallacies such as questionable statistics and hasty conclusions.

9. False Charge of Fallacy

It often is all too easy to charge others with fallacious reasoning. This is particularly true when people change their minds and embrace positions they previously denied. The temptation is to charge them with the fallacy of inconsistency. But making a given statement at one time and one that contradicts it at a later time does not necessarily indicate inconsistency; we may have, and express, good grounds for changing our minds.

Take the person who says, “I used to believe that women are not as creative as men, because most of the intellectually productive people I knew about were men; but I’ve changed my mind, because I believe now (as I didn’t then) that environment (culture, surroundings), not native ability, has been responsible for the preponderance of intellectual men.” Surely, that person cannot be accused of the fallacy of inconsistency, since he (or she!) has explained the change of mind.

Anyway, in good textbook style, let’s say that those who falsely accuse others of fallacy are themselves guilty of making a false charge of fallacy.

Of course, falsely accusing someone of inconsistency is not the only way in which someone might be guilty of false charge of fallacy. Recall, for example, the earlier discussion of the distinction between analogical reasoning and explanatory analogies;
clearly, we are guilty of making a false charge of fallacy if we accuse someone of perpetrating a questionable analogy when his or her intent is not to prove something but merely, via an analogy, to explain it.

We are also guilty of falsely charging someone with a fallacy when we take literally an ironic jab at the opposition. In the following letter to the editor, for example, the writer clearly intends to be ironic:

Billions of dollars and two decades later, the War on Drugs has successfully eliminated illegal drugs from the face of America. The country is finally free of pot, coke, and heroin. With this as a model, the War on Junk Guns is bound to be successful.

Claiming that the writer is guilty of questionable premise or suppressed evidence because the War on Drugs hasn't eradicated illegal drugs clearly constitutes a false charge of fallacy. The letter writer just employs sarcasm to remind us ironically that the War on Drugs has been a failure.

Note, by the way, that some of the alleged fallacies that have been discussed in logic textbooks since time immemorial are not generally fallacious, at least according to the criteria set up in this text. Take the fallacy called appeal to force (traditional name: argumentum ad baculum), committed, it is said, when a conclusion is accepted after a threat of force of one kind or another. Lawmakers, for instance, sometimes are charged with commission of this fallacy when they are convinced to vote a certain way by the implied threats of lobbyists to stop the flow of campaign contributions.

But legislators whose arms are twisted in this way generally are not guilty of a fallacy—the arm twisting doesn’t convince them of the merits or demerits of particular legislation but rather of the personal (career) benefits to be gained by voting as lobbyists “suggest” they should. We need to know here, though, that self-interest frequently motivates people, lawmakers included, to believe what they otherwise would see to be false. More is said in Chapter 6 about the power of self-interest to influence beliefs.

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**Exercise item from the second edition of a certain textbook on logic and contemporary rhetoric:**

*Newspaper story:* Thor Heyerdahl has done it again, crossing the Atlantic in a papyrus raft designed according to ancient Egyptian tomb carvings. Landing in the Western Hemisphere on the island of Barbados, he was greeted by the Barbados prime minister, Errol Barrow, who declared, “This has established Barbados was the first landing place for man in the Western World.”

*This was a very un-PC remark by Barrow, but that is not the point here. The point is that the correct answer to this exercise item was supposed to be hasty conclusion, but a student from Barbados pointed out that the prime minister was known for his sense of humor. Another false charge of fallacy, this time by the (here nameless) author of the critical reasoning textbook in question.*
Quibbling

When deciding whether someone has or has not committed a fallacy, we don't want to quibble. We don't want to take advantage, for instance, of the fact that life is short, and, in everyday life, we don't usually bother to spell out every detail. Some things can, and should, be taken for granted.

Consider the American Medical Association (AMA) ad that stated:

100,000 doctors have quit smoking.
Maybe they know something you don’t.

Students have called this ad fallacious because, among other reasons, it suppresses evidence as to what kind of doctors have quit. (“Maybe it was horse doctors.” “They don’t say if they were doctors of medicine.”) But this sort of response amounts to nothing better than quibbling. It resembles the remark of a student who objected to Shakespeare’s wonderful line “He jests at scars, that never felt a wound” (Romeo and Juliet), on grounds that he (the student) had felt a wound—a mere scratch—and still jested at scars. (Other students have objected to the line on the grounds that Shakespeare incorrectly used that instead of who, but they [the students!] were guilty of another, grammatical sort of quibbling—to say nothing of hubris, in having the temerity to “correct” the grammar of someone who may well be the greatest writer to ever work in the English language.)

This (finally!) concludes our discussion of fallacies, unfortunately restricted to just a few of the more common varieties that have been discussed in one place or another in the literature. While it is useful to become adept at aptly applying specific names to cases of fallacious reasoning, the point of acquiring this skill, after all, is to learn how to improve one’s own reasoning and to be better able to spot the fallacious reasoning of others. Remember, though, that what counts is not the ability to apply a label to poor reasoning. Labels certainly are useful in getting adept at spotting bad arguments, but seeing that they are bad and understanding why they are bad is the name of the game.

In any case, we will soon see that spotting fallacies is only part of the larger enterprise of evaluating more complicated passages containing related arguments that are intended to form a coherent whole. Extended arguments of this kind—argumentative essays—are discussed in Chapters 8 and 9.

Summary of Chapter 5

1. Hasty conclusion: Accepting an argument on the basis of relevant but insufficient information or evidence. Example: Sherlock Holmes’s conclusion that Dr. Watson was an army man just back from Afghanistan.

2. Small sample: Drawing conclusions about a population on the basis of a sample that is too small to be a reliable measure of that population. Example: Conclusions drawn about primate mating habits based on a sample of three human couplings, a gibbon mating, and those of one troop of baboons.

3. Unrepresentative sample: Reasoning from a sample that is not representative (typical) of the population from which it was drawn. Example: The sample of primates just mentioned.

4. Questionable cause: Labeling A as the cause of B on evidence that is insufficient, negative, unrepresentative, or in serious conflict with well-established high-level
Theories. Example: Blaming President Bush for the downturn in the economy when other, more complex factors are at work.

5. Questionable analogy: Drawing an analogical conclusion when the cases compared are not relevantly alike. Example: Comparing Bush to Hussein in the prisoner abuse scandal at Abu Ghraib.

Note, by the way, that the quality of statistics sometimes differs a great deal from time to time and place to place.

6. Questionable statistics: Employing statistics that are questionable without further support. Example: Accepting government statistics on short-term business trends as completely accurate rather than just educated approximations. Extreme example: Employing unknowable statistics about how many wars have been fought in the past 5,000 years and how many casualties there have been.

7. Questionable uses of statistics: Perfectly good statistics also sometimes are a problem—for two reasons. The first is the inability of so many people to understand the significance of this statistic or that, made worse by the natural tendency in all of us to see statistics as favoring conclusions we already have drawn. The second is the ability of charlatans to bamboozle the rest of us via cleverly employed statistics. Example: Accepting evidence that the murder rate in states that have adopted a death penalty for serious crimes is higher than in states that have not done so as proof that the death penalty does not deter crime, without further evidence that this statistical evidence has a causal foundation; it could well be, for example, that states adopting death penalties had even higher murder rates than other states and have adopted a death penalty in an attempt to do something about that unfortunate fact.

8. Polls: Although polls are an important source of information, they need to be dealt with cautiously. Polls can be misleading (1) because of the way in which questions are worded—often deliberately, to obtain the desired statistics; (2) because they ask the wrong questions; (3) because respondents don’t want to appear ignorant, immoral, odd, or prejudiced; or (4) because they are based on a sample that is too small or unrepresentative. Example: The NRA survey asking loaded questions skewed to get negative responses to government control of gun owners.


Note that ironic rhetoric that, if taken literally, would be fallacious, may well not be. Note also that we don’t want to be overly critical of the reasoning of others to the point that we are guilty of quibbling.

Some of the alleged fallacies that have been handed down to us in logic textbooks often are not fallacious. For example, legislators who vote so as to satisfy lobbyists are not usually guilty of the fallacy of appeal to force: They become convinced by the implied threats of the lobbyists to vote as “suggested” because of self-interest, not because they change their minds about the merits of the legislation. Sad.
**Exercise 5-1**

1. The National Science Foundation reported that two different polls conducted by telephone two weeks apart came up with much different results on the question of whether Americans support embryonic stem cell research—even through the pollsters used similar methodologies. The Coalition for the Advancement of Medical Research (CAMR) found that nearly 75 percent of Americans supported this type of research, but a poll conducted two weeks later by the United States Conference of Catholic Bishops (USCCB) reported that “48 percent of Americans oppose federal funding of stem cell research that requires destroying human embryos.” Only 39 percent approved. Why were the results so different? The answer is in the way the questions were framed.

**CAMR question:** I’m going to read you a brief description of embryonic stem cell research, and then get your reaction. Embryonic stem cells are special cells that can develop into every type of cell in the human body. The stem cells are extracted from embryonic cells produced in fertility clinics and then frozen days after fertilization. If a couple decides that the fertilized eggs are no longer needed, they can choose to donate the embryos for research or the clinic will throw the embryos away. Scientists have had success in initial research with embryonic stem cells and believe that they can be developed into cures for diseases such as cancer, Parkinson’s, heart disease, juvenile diabetes, and spinal cord injuries. Having heard this description, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose medical research that uses stem cells from human embryos?

**USCCB question:** Stem cells are the basic cells from which all of a person’s tissues and organs develop. Congress is considering the question of federal funding for experiments using stem cells from human embryos. The live embryos would be destroyed in their first week of development to obtain these cells. Do you support or oppose using your federal tax dollars for such experiments?

Evaluate the way the issue is framed in each question and explain how the questions influenced the survey results.

2. Here is a paraphrase of a letter to the editor of the *Nutrition Action Health Letter*:

I am a diabetic who has found the artificial sweetener NutraSweet to be “a total nightmare.” I thought it would be a good substitute for sugar [diabetics have to severely limit their intake of sugar]. But when I started using it, I began to have serious headaches that my doctor could not account for. So under my doctor’s supervision, I stopped using NutraSweet and my headaches stopped. Going back onto NutraSweet was followed by a renewal of my headaches. I did this back and forth three times and the scenario was the same each time: “no NutraSweet, no headache; NutraSweet, headache.”

Do you agree with the unstated implication of this letter—that taking the NutraSweet was the cause of the headaches? Defend your answer against likely objections.

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3. Comment on this quote (attributed to Rush Limbaugh) from an ad urging people to join the National Organization for Women. “What if a man claimed the right to rape using the same principle found in the theory that it is his body and he has the right to choose?”

4. Earlier in this chapter, we questioned the use of Death Penalty Information Center (DPIC) statistics concerning the death penalty to show that that extreme form of punishment does not deter crime more than lesser penalties. What about a Harper’s Index item indicating that the chances of a white teenager arrested on a drug charge being tried in adult court, rather than a juvenile court, are about 1 in 70, while for blacks the chances are 1 in 18? Is the implied conclusion that black teenage offenders are discriminated against compared to whites justified on the basis of this evidence?

*5. Comment on the following statistic listed in the November 2000 Harper’s Index: Points by which the average SAT score of a home-schooled student exceeds that of other United States students—81.

**Exercise 5-2**

Determine which fallacies (if any) occur in the following short passages and justify your answers (as you did when working on Exercises 3-1 and 4-1). (Note again that some of these passages may also contain fallacies discussed in previous chapters and some may not contain fallacious reasoning.)

1. Bangkok Post (June 7, 1990): “In sweltering California, a Red Indian brave performed a water ceremony in Claremont in the middle of last month. Now everyone is raving about the fact that just nine days after he returned to his teepee, ‘the skies opened up and a 2.54 cm deluge soaked the region.’ Three Valleys Municipal Water District supremo Paul Stiglich insists there is a connection. ‘The Indians came, they danced, it rained,’ he said.”

2. The New York Times (January 20, 2005) reported that Germaine Greer, a well-known Australian feminist and literary scholar, quit the cast of Celebrity Big Brothers, a British reality show, after only five days. On this program celebrities are confined in a house where they interact with one another while viewers vote on who should go or stay. Greer complained that contestants were encouraged to bully, living conditions were poor, food was stale, and towels were filthy. Even worse, she claimed that they were subjected to “lockdowns” in their bedrooms, where they were prohibited from eating, using the bathroom, or sleeping. When other contestants refused to join her revolt against Big Brothers thought police, she quit in disgust and denounced the show as a “fascist prison camp.”

3. From a Bob Schwabach “On Computers” newspaper column: “There aren’t just a couple of brands [of IBM-compatible computers] for those [very low] prices; there are dozens. Do they work? Someone I know has been running one continuously for five months, and it’s never missed a beat.”

4. During the wars in Afghanistan and Iraq, the U.S. government placed a value on human lives that suffered wrongful deaths caused by the U.S. military and made “condolence payments” to family members. They did the same for Americans
killed in al Qaeda attacks on September 11, 2001. Here are some statistics on the
worth of human life taken from “A Scale for the Price of Life,” by Tom
Engelhardt (San Francisco Chronicle, May 20, 2007).

A civilian killed in Haditha, Iraq, by U.S. Marines: $2,500.
A civilian killed near Jalalabad, Afghanistan, by U.S. Marines: $2,000.
A civilian killed by al Qaeda terrorists on September 11: $1.8 million.

5. Smoking pot definitely leads to heroin use. A report by the U.S. Commissioner
of Narcotics on a study of 2,213 hard-core narcotics addicts in the Lexington
(Kentucky) Federal Hospital shows that 70.4 percent smoked marijuana before
taking heroin.

6. Susan Brownmiller, arguing against the legalization of pornography: “Pornog-
raphy, like rape, is a male invention designed to dehumanize women, to reduce
the female to an object of sexual access, not to free sensuality from moralistic or
paternal inhibition.”

7. From a student essay: “It is wrong to criticize advertisers for manipulating
people through psychological ploys because that’s what makes ads effective.”

8. Overheard in a local bar: “You women are wrong to be for censoring pornogra-
phy, even if it’s true, and I’m pretty sure it isn’t, that porno stuff makes a few men
more likely to rape. Would you want to ban miniskirts, bikini outfits, low-cut
dresses, and such—require women to wear Muslim-style outfits—if it’s true
that scanty clothes make some men more likely to rape?”


    Man’s Lawsuit Claims Fast-Food Restaurants Caused His Obesity

The article went on to explain that Caesar Barber “…a 5-foot-10 maintenance
worker who weighs 272 pounds had heart attacks in 1996 and 1999 and has dia-
betes, high blood pressure and high cholesterol. He said he ate fast food for decades,
believing it was good for him until his doctor cautioned him otherwise. . . . His
lawyer, Samuel Hirsch, said the restaurants should list ingredients on their menus.
‘There’s direct deception when someone omits telling people food digested is
detrimental to their health.’”

10. A disgusted baseball fan on hearing about Barry Bonds alleged use of perform-
ance-enhancing drugs: “They ought to let him play ball. The next thing you
know, they’ll be taking away records from people because they had an extra bowl
of Cheerios.” (San Francisco Chronicle, September 2, 2006)

11. The president of a college who shall go unnamed here justifying the reduction of
salaries for adjunct (part-time) teachers who are paid only 75 percent of the rate
paid to full-time staff per course: “I don’t see the problem here. No other college
in the state pays more than we do.”

12. Comment in Time article (May 14, 2001) by Tom Green, a self-proclaimed
fundamentalist Mormon, who was indicted in Utah on four counts of bigamy:
“Mormons say polygamy is immoral and wrong, but the church was founded by
polygamists. That is hypocrisy.”
13. In February 1999, Larry King said on his program *Larry King Live* that since the Lewinsky story broke in January 1998, we’d had an excellent year: crime down, business up, unemployment lower. So he asked his guests, Wasn’t Monica-gate good for the country?

14. In a speech at the Naval Postgraduate School in Monterey, California, Albert Gonzales, the president’s White House counsel, justified the second President Bush invading Iraq without a congressional declaration of war. When one officer asked how Bush could legally do this, Gonzales said that we had conducted 100 military actions in the past without a congressional declaration of war; furthermore, past presidents often declared war without a congressional declaration.

15. When Joseph Lieberman was the Democratic senator from Connecticut, he supported the war in Iraq, despite the fact that Connecticut was an antiwar state. But in an uphill battle to win the 2006 Democratic primary against antiwar challenger Ned Lamont, he said “The sooner we are out [of Iraq] the better” and predicted we would “begin to draw down significant troops” by the end of 2006. After he was re-elected to the Senate as an Independent, he sent a letter to President Bush saying “[I] strongly urge you to send additional American troops to Iraq.”

16. Bill Gates, commenting on the government’s antitrust suit against Microsoft: “Forcing Microsoft to include Netscape’s competing software in our operating system is like requiring Coca-Cola to include three cans of Pepsi in every six-pack it sells.” In response, the chief of the Justice Department antitrust division, Joel Klein, said Microsoft’s actions are similar to one company owning all the supermarkets and refusing to carry any soda brand other than its own. In your opinion, who won this little to-and-fro, and why?

17. From a student essay: “The U.S. Department of Health states that only 3–5 percent of sexually transmitted diseases in this country are related to prostitution.”

18. Paraphrase of part of a letter in a December 1990 “Ann Landers” advice column: “My parents didn’t give me much guidance about social behavior, morals, or sex. But I read your column—you were one person I learned from. You said not to go for looks and popularity, but to pay attention to ‘the quiet one in the corner.’ So about nine years ago, I married an average-looking guy who is a ‘great father and a good provider,’ and have been very happy. Thanks very much for your excellent advice.”

19. Paraphrase of part of a letter to the editor, *Marin (California) Independent Journal*: “When the first heart transplant was done by Dr. Christian Barnard, he was praised, not his scalpel. It was Cain, according to the Bible, not a rock, that killed Abel. Why, then, listen to the pseudoliberals and other nitwits when they blame crimes on guns rather than on people who use guns?”

20. Wayne LaPierre, executive vice president, National Rifle Association: “I think that [the ban on assault weapons] has as much to do with crime control as making a wish while you blow the candles out on a birthday cake.” He then provided reasons that he believed showed that such a ban would not reduce the crime rate.
21. In September 2005, a Danish Newspaper, *Jyllands-Posten*, published cartoons of the prophet Muhammad that were reprinted in several other countries over the next few months, causing a storm of protest throughout the Islamic world. Current Islamic interpretation decrees that the Koran prohibits depicting the image of Muhammad (though it has not always been interpreted this way in the past), but one cartoon went so far as to caricature the prophet as a terrorist. The outcry was even greater when a report later emerged that two years earlier the paper had refused to print cartoons of Christ because they might be offensive and were not funny. The editor claimed that the case was “ridiculous to bring forward now. It has nothing to do with the Muhammad cartoons. In the Muhammad drawings case, we asked the illustrators to do it. I did not ask for these cartoons [of Christ]. That’s the difference.”

*22. Comment on the following Associated Press item, November 10, 1997: “Americans spent $57.3 billion on illegal drugs in 1995, a catastrophic amount but down from previous years, a report by the White House Office of National Control Policy says. The report . . . said [that] estimated spending on . . . illicit drugs compared with 57.5 billion in 1994 and continued a downward trend from 1988 . . . [when] drug sales were estimated at 91.4 billion.”

23. Comment by Dr. James M. Orient, Executive Director of the Association of American Physicians and Surgeons, on President Clinton’s February 2000 proposed $3,000 fine on tobacco manufacturers for each underage smoker:

> What’s next? Fining auto makers for each speeding driver, nailing Hershey for every diabetic who eats a candy bar, or gouging MacDonald’s for all obese people who order a Big Mac?

**Exercise 5-3**

Here are a few more short passages to be evaluated.

*1. A response to the criticism of the danger of the *Cassini* space mission because it contained 72.3 pounds of plutonium: “Would you decide not to drive a car because you might have an accident and harm others?”

*2. Although traditional Jewish practices forbid eating the meat of the pig, a large minority of Jews in Israel have developed a taste for bacon, pork, and the rest. This offended Orthodox Jews, who wanted to pass a law prohibiting the sale of these products. Explained Rabbi Avraham Shapira, a leader of Orthodox Jews (in the fall of 1985—a law concerning meat from the pig was passed in 1990): “Our law is not to forbid people to eat pork. We are very democratic here. What we want is people not to be able to sell pork. It hurts every religious man when he passes through a city in Israel and he sees a shop with pork in the window.”

3. When Arnold Schwarzenegger announced his decision on the *Tonight Show* to run for governor in the 2003 California recall election, he vowed he would rid the government of special interest politics, implying that he was the ideal candidate to do so because he didn’t “need to take money from anybody.” In the weeks
that followed, he received millions of dollars in campaign contributions from some of the largest corporations in the state.

4. In discussing Jet Blue’s decision to sponsor the Yearly Kos Convention, Bill O’Reilly made this comment on his program (July 1, 2003) about the Daily Kos, a liberal blog: “There’s no difference between the KKK and the Nazis who have websites, than the Daily Kos because the Daily Kos is basically saying ‘We’re allowing this thing [hate commentary] to come on’” (quoted on mediamatters.org). O’Reilly was referring to a few offensive viewer comments (not blog posts) about Tony Snow and Dick Cheney.

5. Taken from a student’s paper (paraphrased): “The prohibition amendment, which made drinking alcohol illegal early in this century, reduced consumption by 50 percent. When the amendment was repealed, the consumption of alcohol almost tripled. This shows that Americans take the law seriously; when something is illegal, they tend to stay away from it.”

Instructor’s comment on the student’s paper: “This must be why we have no drug problems today.”

6. Item from Molly Ivins’s column during the Democratic challenge to the Florida vote, November 2000: “George [W.] Bush claimed throughout the campaign ‘We trust the people,’ then complained after the election: ‘No way can you trust the people. What idiots are counting these votes?’”

7. Newspaper Association of America’s spokesperson Paul Luthringer (quoted in Extra!, September/October 1995), responding to a survey that found only 19 percent of sources quoted or referred to on newspaper front pages were women: “The fact that women are quoted less than men has nothing to do with the state of journalism, but has more to do with who—male or female—is the first to return a reporter’s call.”

*8. From a Science News article:

[Scientists] produced their map of the vegetation existing 18,000 years ago by sifting through published reports on ancient pollen and other plant remains in sediments from around the world. They then estimated how much carbon dioxide was locked within the plants, soil and peat in specific regions. Continental vegetation and soils contained far less carbon dioxide during the Ice Age than they do today, researchers report. . . . Carbon storage on the continents totaled 968.1 billion tons 18,000 years ago, compared with 2,319.4 billion tons now, an increase of 140 percent.

9. New York Times article: “When several women’s groups protested the Pakistani law that accords the legal testimony of women half the weight of the testimony of men, Qazi Hussain Ahmed, leader of the Islamic party, said, ‘These laws do not affect women adversely. Our system wants to protect women from unnecessary worry and save them the trouble of appearing in court.’”

10. Craig Stoll, a San Francisco restaurant owner, defended his decision to prohibit diners from bringing their own wine into his pizzeria. “I don't know why people feel so entitled to bring their own [bottle]. What if you collected fine table cloths
from all over the world and you don't ever cook at home so you want to bring one in to eat off of? It's ridiculous.” (taken from “The Taming of the Screw,” San Francisco Chronicle, April 6, 2006)

*11. Item in Science 80 (November/December 1979): “The chief trouble with the word 'superstition' is that it always applies to the beliefs of someone else, not your own. The entire history of science shows that, in varying degrees, much that even the greatest scientists believed to be fact is today either false or else somewhat less than factual, perhaps even superstitious. It follows that what the best scientists today believe to be fact will suffer the same fate.”

12. On a segment of “Your World” (Fox News, January 4, 2008), host Neil Cavuto asked author Marc Rudov why he said that Hillary Clinton's nagging voice was the reason men overwhelmingly picked Barack Obama rather than Clinton in Iowa (at the Democratic caucuses). Rudov replied, “When Barack Obama speaks, men hear, ‘Take off for the future.’ And when Hillary Clinton speaks, man hear, ‘Take out the garbage.’”

13. An item from the New York Times (June 13, 2001) reported that the Justice Department announced in June 2001 that violent crime had fallen 15 percent the previous year, the largest drop on record. The report, based on a survey of 160,000 crime victims nationwide indicated that “[s]imple assaults accounted for 61.5 percent of all violent crime . . . and because they declined by 14.4 percent in 2000 compared with 1999, they accounted for most of the drop in violent crime . . .” Two weeks earlier, “the FBI reported that serious crime had remained stable in 2000, ending an eight year period of significant declines. . . . [It] measures only the most serious crimes . . . but does not include simple assaults like pushing and shoving.”

14. A letter to the San Francisco Examiner from a physician argued that if juries award sums like $10.5 million to plaintiffs who have contracted toxic shock syndrome—even though that disease wasn't known to medical science when the damage took place—perhaps we can now expect lawsuits against pharmaceutical companies and physicians by the relatives of people who died of pneumonia before 1943, on the grounds that as-yet-undiscovered penicillin hadn't been prescribed.

*15. When it was pointed out to Stephen Schneider, a climatologist at Stanford’s Institute for International Studies, that he was recommending action now even though he was only 90 percent sure that global warming was occurring because of atmospheric emissions, he replied, “Why do we need 99 percent certainty when nothing else is that certain? If there were only a 5 percent chance the chef slipped some poison in your dessert, would you eat it?”

16. Peter Singer in his book Animal Liberation: “The racist violates the principle of equality by giving greater weight to the interests of members of his own race when there is a clash between their interests and the interests of those of another race. The sexist violates the principle of equality by favoring the interests of his own sex. Similarly, the speciesist allows the interests of his own species to override the greater interests of members of another species. The pattern is identical in each case.”
17. When Charles Gibson, ABC anchor, asked vice-presidential candidate Sarah Palin about her foreign policy experience, Palin made an off-the-cuff remark that she could see Russia from her house. Katie Couric, CBS anchor, followed this up in another interview, asking her to explain how proximity to Russia “enhances your foreign policy credentials.”

Palin: “Well it certainly does because our, our next-door neighbors are foreign countries, there in the state that I’m executive of. And there . . .”

Couric [interrupting]: “Have you ever been involved in any negotiations, for example, with the Russians?”

Palin: “We have trade missions back and forth. It’s very important when you consider even national security issues with Russia. As Putin rears his head and comes into the airspace of the United States of America, where do they go? It’s Alaska. It’s right over the border. It is from Alaska that we send those out to make sure that an eye is being kept on this very powerful nation because they are right there. They are right next to our state.”

18. Hitler’s version of Darwin’s theory of evolution by natural selection (from Mein Kampf): “No more than Nature desires the mating of weaker and stronger individuals, even less does she desire the blending of a higher with a lower race, since if she did her whole work of higher breeding over perhaps hundreds of thousands of years, might be ruined with one blow.”

19. In defending one of the Menendez brothers charged with murdering their parents, the lawyer, Leslie Abramson, argued, “What they did is not the issue. It’s why they did it. These boys were not responsible for who they turned out to be. They were just little children being molded.”

20. Part of a political column by George Weigel (November 29, 1992), in which he argued against the Roe v. Wade Supreme Court decision: “The hard sociological fact is that abortion on demand (the regime established by Roe) has been the greatest deal for irresponsible or predatory men in American history. Why? Because whatever else is said, Roe frees men from responsibility for the sexual conduct they consensually enter. Roe is alleged to have empowered women; in fact, Roe legally disempowered women from holding men accountable for their sexual behavior where that behavior had unplanned results.”

*21. From an article in the January/February 1994 issue of Quill magazine about the claim by Dr. John Pierce (University of California, San Diego) that the Joe Camel cigarette ads were responsible for “a sharp increase in teen smoking”: “His study shows that first-time smokers among Californians from the ages of 16 to 18 had steadily declined from 12.5 percent in 1975 to 6.2 percent in 1988, but then began sharply increasing again. Joe Camel, a cool-looking, cartoonish character, was introduced as the Camel symbol in 1988. Teenage smoking immediately began increasing by 0.7 percent a year, through 1990. In 1992, Pierce conducted another study that showed Joe Camel was as familiar a character as Mickey Mouse to children as young as six.”

The Quill article also indicated that because of his research, Dr. Pierce stated that he believes we should ban all tobacco advertising. When asked whether this
wasn’t censorship contrary to the Constitution’s First Amendment, he replied, “There is no free speech [issue] here. The issue is to protect our children from being influenced into an addiction that will cause cancer.”

*22. Since the 55-mile-per-hour speed limit was introduced by President Carter, traffic fatalities in the United States have dropped almost in half. So now that the Republican Congress (in 1995) has repealed the 55-mp limit we can expect traffic fatalities to go back to where they were—almost double what they are now. (Note: We now have the advantage of hindsight, since we can find out whether the repeal did or did not go back to where they were or significantly increased. But do this exercise item without resort to later information of this kind. By the way, did traffic fatalities significantly increase?)

23. Paraphrase of part of a letter to the editor in the Honolulu Advertiser, July 17, 1999, disagreeing with the Supreme Court ruling that flag burning was protected as free speech: “Rights entail responsibilities. Since you can’t yell fire in a crowded theater and can’t utter racial slurs in a schoolroom, you shouldn’t be allowed to burn the flag. There should be limits to speech that is hateful or that harms people.”

*24. Taken from an item in Extra! (December 2003): “Fox News anchor Brit Hume . . . argued (August 26, 2003) that U.S. soldiers were better off than Californians. ‘Two hundred seventy-seven U.S. soldiers have now died in Iraq, which means that statistically speaking U.S. soldiers have less of a chance of dying from all causes in Iraq than citizens have of being murdered in California, which is roughly the same geographical size. The most recent statistics indicate California has more than 2,300 homicides each year, which means about 6.6 murders each day. Meanwhile, U.S. troops have been in Iraq for 160 days, which means they’re incurring about 1.7 deaths including illness and accidents each day.’”

25. The Los Angeles Times ran an article in November 2005 about the covert U.S. military practice of paying Iraqi newspapers and television stations to run articles with reassuring news about the war in Iraq. Although propagandistic in nature, the articles were presented as unbiased news accounts. In defending the policy on National Public Radio, Charles Krohn, a former Army spokesman, said, “I don’t think there’s any need for secrecy, but I think it’s pretty well understood that it’s the custom in that country to pay journalists and to pay newspapers. And certainly I think the record that Saddam [Hussein] has done this and others do it is pretty well established.”

**Exercise 5-4**

*A letter to the editor of Free Inquiry (Winter 1999/00) argues against hanging copies of the Ten Commandments in public schools on the grounds that it may promote church attendance, which may well be harmful. As evidence, the writer cites statistics from two different issues of Scientific American. The first (July 1999) notes the percentage of adults in the United States and in European countries who attended church at least once a month in the 1990s. The second (August 1999) lists the criminal population per hundred thousand behind bars during that period. Evaluate these statistics*
and explain why you think they do or don’t support the claim that churchgoing may be harmful.

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<thead>
<tr>
<th>Country</th>
<th>Percentage Attending Church</th>
<th>Number in Jail per 100,000</th>
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<tbody>
<tr>
<td>Ireland</td>
<td>88</td>
<td>55</td>
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<tr>
<td>Poland</td>
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<tr>
<td>U.S.</td>
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<tr>
<td>Mean</td>
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<tr>
<td>Mean</td>
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<td>63</td>
</tr>
</tbody>
</table>

**Exercise 5-5**

The ACLU has been severely criticized by many for opposing a ban on commercial advertising of cigarette companies while taking large contributions from those companies (for example, from Phillip Morris since 1987 to the tune of $500,000 and similar large quantities from R. J. Reynolds). But the ACLU claims that it has opposed bans on commercial ads on First Amendment grounds for more than 50 years. If true, are the opponents guilty of questionable cause? Do some research. (See, for example, *Public Citizen’s Health Letter*, April 1999, or *The Progressive*, February 1999.)

**Exercise 5-6**

Find several fallacy examples of your own, perhaps gleaned from newspapers, magazines, television programs, textbooks (hopefully not this one, but anything is fair game), or what have you, provide a name in each case if you can, and carefully explain why the passage is fallacious.