# **Detecting Fallacies**

In earlier chapters we examined several techniques of deception: exaggeration, telling only half the truth, and using loaded language. Fallacies, too, can be used to deceive, as we saw in the discussion of the fallacy of avoiding the issue, the red herring, and misplacing the burden of proof. In this chapter, we explore other important fallacies. Knowing the main ways that people are lured into these errors will improve your chances for logical self-defense in the future.

### **Ad Hominem Fallacy**

If you venture to disagree with some people about any matter of religion or politics, they will be on your back like a rooster on a tater bug. They'll scratch at you any way they can; call you names; humiliate you; and attack you with an ad hominem fallacy.



Suppose a soccer player is trying to convince somebody that black-and-white soccer balls are easier to see at dusk than red-and-yellow balls, when a third person butts in and says, "Who are you to talk about good and bad soccer balls? You've been thrown out of more soccer games for rules violations than anyone else on the team, and you still owe me five bucks for last season's team trophy." The person butting in commits the ad hominem fallacy: attacking an argument by pointing out some irrelevant characteristic of the reasoner rather than by pointing out some error in the reasoning itself. Purposefully using the ad hominem fallacy is a kind of smear tactic. The way to avoid committing this fallacy is to concentrate on the reasons, not on the reasoner.

#### -CONCEPT CHECK-----

Which of the following brief arguments are examples of the ad hominem fallacy?

- a. Buy Cheerios; it's the breakfast of champions.
- b. Don't buy Cheerios. They're too expensive.
- c. Don't listen to Andy's argument for buying Cheerios. He's admitted the reasons behind his concluding that they aren't worth buying or eating, and those reasons really do not support his conclusion.
- d. I believe that Cheerios cost less, and all Emilio's numbers and figures about how relatively expensive the cereal is are not convincing, because he's some sort of politician.

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Ad hominems aren't always so obvious. Frustrated by a doctor's warnings against smoking, a patient might strike back by saying, "Who are you to talk? You smoke." Has the patient committed an ad hominem fallacy? This is a difficult question. At first sight, you might be apt to say something like this: "Yes, the doctor might be a hypocrite, or a victim of weakness of the will, but the patient's complaint is irrelevant to whether or not the doctor's reasons against smoking are good reasons. "Do as I say, not as I do," is what the doctor is suggesting. Therefore, the patient has committed an ad hominem fallacy. But on second thought, the patient has a point. It is well known that you often can learn more about what people really believe by observing how they act than by listening to what they spout off about. It could be argued

<sup>180</sup> Answer (d). Only in (d) does the reasoner reject someone's argument by pointing out irrelevant characteristics of the arguer. Answer (c) gives an argument that might appear to attack the arguer, but notice that the attack is on the arguer's reasons and really not on the arguer.

reasonably that if the doctor really believed what he says about smoking, he would follow his own advice. Because he doesn't follow his own advice, it is reasonable to conclude that the advice should not be followed unless other authorities can be found to back up the advice. If the patient had never heard anything negative about smoking except for what this doctor has said, the patient would be acting properly in hesitating to follow the advice. So, the reasoning does not commit the ad hominem fallacy.

# **Fallacy of Circular Reasoning**

If you justify A by appeal to B, then justify B by appeal to C, and then justify C by appeal to A, you are reasoning in a circular. Earlier we saw example of giving circular definitions. Here is another example. By definition, the Bialystok fallacy occurs when there is an instance of either circular reasoning or a Bialystok fallacy. Because the Bialystok fallacy is the most significant of all the fallacies, you can be sure that it is a fallacy of the highest significance. Circular reasoning is also called "begging the question" when there is a circular of justification rather than a circle of definitions. Here's an example with a very small circle: Smoking is bad for your health because it's so hard on your health when you smoke.

### Straw Man Fallacy

When you are arguing with someone, your goal is usually to create an argument that successfully shows the other person's position to be false. Your argument is then called a refutation of your opponent's position. From a logical reasoning perspective, which is one of fairness to the opposition, you ought not mistreat your opponent, nor should you misrepresent your opponent's position. Here is an example of someone misrepresenting a position:

Lobbyist for the logging company: I'm asking you to help encourage Congress to pass that bill to provide subsidies to Western logging companies for selective cutting of 10,000 acres of federal timber land.

Environmentalist: I don't see how you can seriously ask any of us for our help. You are asking our grandchildren to live in a world in which they will never see a tree, never spot a deer, never smell the sweet scent of pine needles. Do you have any idea how bad it would be to live this way? No trees means bad air. No trees means muddy rivers. No trees means no wildlife. How can you defend the rape of the land? Land is precious; forests are precious; our grandchildren are precious. I don't understand how you can ask us to pick up the banner of desolation.

What an exaggeration! The environmentalist offers all sorts of reasons why there shouldn't be land rape or deforestation of the planet. The lobbyist was asking for logging subsidies, not land rape. The environmentalist has misrepresented the lobbyist's position and then begun to beat up on the misrepresentation. This unfair approach is called the straw man fallacy.



A speaker commits the straw man fallacy whenever she falsely attributes an especially weak position to her opponent that he wouldn't have proposed himself and then proceeds to attack the weak position. The opponent is a real man with a real argument; the weak position is an artificial one held by an artificial person —the "straw man" or scarecrow the speaker has created. It's easier to attack a straw man; nevertheless, the attack is irrelevant. It is a diversion from the main issue.

You are not committing the straw man fallacy simply by drawing a consequence from what the man savs that is not what he himself would draw. It must be clear that you are also misinterpreting what he did say. Here is another example of the straw man fallacy, committed by Bob:

Andy: We should liberalize the laws on crack.

*Bob*: No. Any society with unrestricted access to drugs loses its work ethic and goes only for immediate gratification. We don't want that, do we?

Andy: Hey, I didn't say anything about unrestricted access to drugs. That's not the liberalization I want.

Bob has attacked a position that Andy doesn't hold. So, Bob's attack is an irrelevant **smokescreen** that commits the straw man fallacy. Bob's argument is ineffective logically, although it may still be effective psychologically, especially when Bob goes on to make other points against Andy and doesn't give him time to come back and defend himself.

To avoid committing the fallacy, Bob could, instead, have said to Andy something like the following:

*Bob*: What do you mean by liberalize? If you mean unrestricted access to drugs, then society will lose its work ethic and go only for immediate gratification, which we don't want, do we? But if you mean some other kind of liberalization, let's hear it. However, what we need is more crackdown on crack, not more liberalization, because. . .

When someone criticizes you by using the straw man fallacy, your natural reaction is to say, "Hey, wait a minute, I didn't say that." Unfortunately, you usually receive the criticism at the last second. Your opponent misrepresents your position while you are not around to defend yourself. In politics, this fallacy frequently occurs in leaflets and ads a day or two before the election.

### False Dilemma Fallacy

Reflect on your own work experience, then respond to this item from a questionnaire.

On average, each week your present employer (or your previous employer if you are not now employed) is drunk on the job

a. occasionally

b.usually

c. always

Suppose your employer is never drunk on the job. What answer could you choose? You don't have one to pick, so you are in a dilemma. Because it is false to say that the three given choices are all that exist, the dilemma is a false one, and the error of reasoning committed by the creator of the question is called the **false dilemma fallacy**. To remove the fallacy, the question could be revised to add a fourth choice, "never." False dilemma reasoning is an example of slanting by unfairly presenting too few choices. It loads the set of choices unfairly by not offering a fair range of choices.

The **black-white fallacy** is a false dilemma fallacy that limits you to two choices that are opposites. Real life is often not so black and white. What about part black and part white? What about the gray? Saying "You are either for our proposal or you are against it" is the most common example of the fallacy. Dick Gregory put it this way: "Either you are part of the solution or you are part of the

problem." If you rightly complain that the dilemma you face is unfair and that there is another choice you should be offered, you are finding a way to *escape between the horns* of the dilemma. That is, you escape being gored by the choices offered. For three-horned false dilemmas you may escape among the horns instead of between the horns.

Not all dilemmas are false ones. If your employer's drinking problem does occasionally interfere with the quality of his (or her) work, you have to consider whether you will ignore it or instead report it to someone. Now you face a true dilemma. If you do nothing, the problem may not get solved. But if you blow the whistle by reporting the problem to another superior, you might have to deal with your employer's reaction when he finds out. He could start assigning you the more unpleasant assignments and you may suddenly find letters in your personnel file describing your poor work performance.

#### -CONCEPT CHECK-----

Which of the following passages, if any, contain a false dilemma fallacy?

- a. Would you vote for the president if he were to run again, provided that code section D of article 20 were repealed, and supposing that under provision 60B the president were to declare his assets and swear not to have been involved in lobbying for a foreign power in the interim?
- b. How many alcoholic beverages have you drunk in the last 24 hours?
- c. Is the president doing about the same quality job as he was doing last year or is he doing better this year?
- d. Please suggest improvements, if any, you would make in Einstein's theory of relativity.
- e. Is Einstein's theory of relativity better than Isaac Newton's for predicting orbits of planets.

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Here is a false dilemma fallacy you can commit on purpose if you want to trick a toddler into doing something:

Do you want to go to bed now or after you've had a glass of apple juice?

The child who doesn't want to go to bed at all might be tricked into choosing the apple juice. After the child is done with the juice you can say, "OK, remember you agreed to go to bed after the juice." The child who can see his or her way through the horns of this petty manipulation has reached a definite step up in logical reasoning ability.

<sup>181</sup> Answer (c). Maybe the president is doing worse.

A politically significant example of the false dilemma fallacy occurs in this resolution adopted by a major political party in Arizona. It states that the United States is "a republic based on the absolute laws of the Bible, not a democracy based on the changing whims of people." A logical reasoner should ask, "Must it be one or the other?" One of the two choices offered by the resolution is that democracy is based on whims; the readers are offered no choice of a democracy based on something else, such as on reasoned opinion hammered out in the marketplace of competing ideas. By slanting the list of acceptable choices, the resolution guides the reader to making the favored choice. Successful stacking of the deck has to be somewhat subtle. If the resolution had said "a republic based on the Bible, not a democracy based on the changing whims of the stupid voters," it would not have passed because it would not have been subtle enough to pass.

Does the sign below commit the false dilemma fallacy?

Jesus Christ OR the Devil?

Eternal life oR Eternal pain in heaven

THE CHOICE IS YOURS

This is not an easy question. Whether it commits the fallacy depends on whether there are really only two choices. Are there? How you answer this question may depend on your ideology or worldview. People with certain ideologies would say that ultimately there are just these two choices — Jesus Christ or Satan. Those with a different ideology — Christian Scientists or Muslims or atheists, for example — will say that there are other choices. So, to decide whether the fallacy has been committed here, we first need to settle the issue of the correctness of the religious ideology that says there are just these two choices. That is a large task, not one well suited to this book. However, it would be incorrect to answer the question of whether the sign commits the false dilemma fallacy by saying, "Yes, it's a false dilemma if you have one ideology; but it's not a false dilemma if you have another ideology." This would be incorrect because the sign either does or doesn't commit the fallacy. Whether it does depends on whether the religious assumption behind the sign is correct.

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<sup>182</sup> From "Justice O'Connor Regrets 'Christian Nation' Letter," James H. Rubin, *The Sacramento Bee*, March 16,1989, p. A28.

Thus, what it would be correct to say is that people who hold one sort of ideology will say, "Yes, it's a false dilemma, "whereas those who hold another ideology are apt to say, "No, it's not a false dilemma." In short, the issue of whether the sign commits a false dilemma fallacy depends in turn on resolving another issue, the correctness of the religious assumptions behind it.

To summarize, by using the false dilemma fallacy, a speaker withholds important choices. The choices presented divert the reader's or hearer's attention away from the other choices. Pointing out one of those other choices is called escaping between the horns of the dilemma.

### **Fallacy of Faulty Comparison**

Suppose a TV commercial shows a woman wearing Jones & Jones gardening gloves. She is finishing her Saturday rose gardening without scratched hands, while her neighbor who gardens without gloves eventually quits because of the wear and tear on her hands. The commercial ends with the comment, "Don't you wish you had Jones & Jones gardening gloves?" This commercial tries to lure you into doing some faulty reasoning. The commercial creator wants you to compare having no gloves with having Jones & Jones gloves and then to conclude that you should buy Jones & Jones gloves rather than other brands. The logical reasoner will draw another conclusion. The commercial gives some reason to believe that, for gardening, wearing gloves is better than not wearing gloves, but it gives no reason to believe that Jones & Jones gloves are better than any other brand of gloves. This commercial offers a faulty comparison. The comparison should have been between Jones & Jones gloves and no gloves at all. The advertising agency that created the commercial intentionally used the fallacy of faulty comparison to deceive viewers. What was compared wasn't what should have been compared.

#### -CONCEPT CHECK----

Explain why the fallacy of faulty comparison occurs in the following advertisement for Flox mouthwash, and explain how to revise the ad to remove the problem:

Flox removes 300 percent more plaque than simple rinsing. Isn't that reason enough for your family to buy Flox?

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Consider this ad: "Enzine detergent motor oil causes less exhaust emission than the leading seller. Buy Enzine." The faulty comparison problem can be useful for understanding this ad. Even if the ad is correct in what it says, you still need to worry before you decide to buy Enzine. For consumers to

<sup>183</sup> The advertisement encourages you to buy Flox instead of competing mouthwashes by luring you into comparing Flox with no brushing at all. To remove the fallacy and make the point the advertiser wants to make, the Flox mouthwash should be compared with other mouthwashes. For example, the ad could say, "When compared to all other mouthwashes, Flox removes 15 percent more plaque. Isn't that reason enough for your family to buy Flox?"

make an informed decision about which product to buy, shouldn't the Enzine oil be compared with *all* the other motor oils, not merely the leading seller? The best seller might be best merely because it is the most highly advertised or least expensive, not because it is a high-quality product. The second major difficulty with the ad is that Enzine might be better than all the other products in terms of exhaust emission, but what about other considerations, such as price and constancy of viscosity, that are important for motor oils? When all these factors are considered, the leading seller might be better for your engine than Enzine, even if what the ad says is true. By selectively presenting the comparison information and by not giving you the other relevant information, the ad is presenting a half-truth.

### **Fallacious Appeal to Authority**

You know that the moon is a big, hard rock, don't you? It looks that way. But wait! How do you know? How do you know it's not made out of soft plastic? You've never been to the moon. You could be wrong, couldn't you?

Don't let that last question intimidate you. You don't have to go to the moon to know about it. You know the moon is a big, hard rock because you have probably read that fact in a science book or heard it from a science teacher. Science teachers can speak with authority on this matter. If you believe that the moon is a big rock for a reason like this, then you *know* it. Much of what you know you have learned this way. You don't find out for yourself; you believe what authorities say, at least when you can be reasonably sure they are in agreement with each other. You are right to do so. It is not firsthand knowledge, but it is still knowledge.

Suppose you came to believe that the moon is a rock only on the basis of what your sister told you. Then you wouldn't know the truth about the moon, assuming that she is no authority. You would believe the truth about the moon, but you wouldn't know the truth. To have knowledge you need more than true belief. To know something you have to have solid justification for it. Knowledge is justified true belief; your knowledge is your true beliefs that you could back up by good reasons. The reasons are crucial; without them you just have opinion, not knowledge.

Knowledge is justified true belief.

If you were to learn that some person's supposed knowledge turned out not to be true, then you would say the person never really knew it after all. For example, in Medieval times many people thought they knew the Earth to be flat, but they were mistaken and didn't really know it. They did have a justification for believing what they believed: they could climb a hill, look out, and see that the world appeared to be flat. That was good evidence for the time. Yet their belief was not knowledge, even though it was reasonable for them to hold the belief. In other words, they had a good reason to believe something false, but because it was false it was not knowledge.



Without having a justification, a person's claim to have knowledge is unsuccessful, but with the justification the person's claim

- a. will never be mistaken and will really know.
- b. might be mistaken.
- a. will always be mistaken, and thus the person will not know.

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If you answered that concept check correctly, then you'll have no problem with this one.

#### ——CONCEPT CHECK——

Explain the error in the following sentence, then rewrite it to make the point correctly:

In Medieval times, people knew that the world is flat, but we now know that it's not flat.

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### More about Assessing Credibility

Suppose your next-door neighbor says you shouldn't marry your sweetheart. When you ask her why, she says it's because her older brother thinks so. "So what?" you say. She responds by pointing out that he is an expert psychologist. At this point are you going to call up your true love and say it's all over? No. Being an expert on psychology doesn't make your neighbor's brother an expert on your love life. You know that your neighbor picked an inappropriate authority to back up her claim. The neighbor has made a famous error of reasoning, the fallacious appeal to authority. When it comes to your love life, there probably isn't any authority.

There is an appeal to authority in this article from a college newspaper. Does it commit the fallacy?<sup>186</sup>

<sup>184</sup> Answer (b). With the justification, the claim could still fail to be knowledge; it must also be true.

<sup>185</sup> It is a mistake to say that the people knew the world is flat. People never knew this because people cannot know something that is false. Here is a way to make the point correctly:

In Medieval times, people believed they knew that the world is flat, but we now know that the world is not.

<sup>186</sup> From The New York Times, June 14, 1988.



The Lottery – The Odds to Beat

Just what are the chances of winning the state lottery? Statistician Peter Bennett says there is one chance in 25 million of winning the \$2 million grand prize The odds are pretty slim, but remember, a \$1 ticket could turn into \$2 million!

Did the newspaper reporter commit a fallacious appeal to authority by citing statistician Peter Bennett? No. Statisticians are just the right sort of people to appeal to about such a matter. So, unless you have a good reason to doubt Bennett's statistics, you should accept them. This acceptance is based on the following principle of logical reasoning: If a person is especially knowledgeable about a subject, then that person's views on the subject should be trusted more.

A fallacious appeal to authority can occur when an appeal is to someone who really is not an authority in the area. Don't ask a chemist when you want an expert opinion about hockey rules. The fallacy can also occur when a claim is backed up by an appeal to an authority in the appropriate area yet the authorities themselves are in significant disagreement with each other. When authorities disagree, none of them can "speak with authority." If I find ten authorities who say to vote Republican in the next U.S. presidential election, you can probably find ten authorities who say to vote Democratic. So if I appeal to my ten authorities as the reason why you should vote Republican, I've committed a fallacious appeal to authority. Sometimes, however, political experts should be trusted. If they say who won last year's election, you should trust what they say unless you have a good reason not to. You have background knowledge that the experts won't disagree on this topic.

Here is a more difficult question along this line. Does the following passage commit a fallacious appeal to authority?

According to psychologists, telepathy (that is, mind reading) occurs more often between friends. The closer the friend, the more frequent the telepathy and the stronger the connection. Only the most gifted of people can read the thoughts of total strangers.

What should you think about all this? First, ask yourself whether psychologists are the right authorities. Shouldn't the speaker appeal instead to brain surgeons? No, psychologists are the

appropriate authorities. The fallacy occurs because the speaker has twisted what the authorities really do say about telepathy. Only a small percentage of psychologists believe in telepathy, and they are not the experimental psychologists (the scientists). Almost all scientific experts agree that telepathy is impossible. Therefore, the rest of us are justified in saying so, too.

How could the position of the psychological authorities be changed to favor telepathy? Here is one way. Have a purported mind reader pass a test. The mind reader could agree in advance to tell some of those psychologists what they are thinking about — say, at 2 p.m. each day for the next three days. If the mind reader is correct in even only two out of the three days, the psychologists would kneel down and kiss the mind reader's feet. Claims to be able to read minds on demand are at least testable, and passing the tests should make the case in favor of the existence of telepathic powers. Unfortunately, nobody has ever been able to pass such a test.

You should critically examine such phrases as "According to psychologists . . ." and "Science has shown that. . ." These phrases are occasionally misleading.

When people cite an authority, you have to worry that they might not understand what the authorities do say, might not realize that the authorities disagree with each other, or, worse yet, might not be telling the truth about what an authority says.

Most of us, not being scientists ourselves, cannot evaluate the scientific details. We have to rely on what others tell us the scientists say. Those others are usually reporters for newspapers, magazines, radio, and TV. Sometimes in their rush to get the story done, reporters will not bother to examine the quality of the science they are reporting on. They won't be careful to evaluate the reputation of the scientist or to check whether other scientists dispute the quality of that scientist's work. For example, suppose the issue is whether the state legislature should pass a bill favoring cloth diapers over disposable diapers. The relevant scientific issue is the impact of both kinds of diapers on the environment. One reporter may incorporate into his news article some paragraphs from a press release crafted by the cloth diaper company that financed the research. The press statements might say, "Independent research shows cloth diapers to be environmentally sound, while disposable diapers clog our nations landfills without decomposing." The reporter might not have taken the time to determine whether the scientific research really was done by an "independent" researcher. Perhaps it was done by a scientist specifically paid to do the research because the company suspected he or she would come up with the "right" results about the product. Meanwhile, perhaps unknown to the first reporter, some other reporter is incorporating into her own article the key paragraphs from the press release of the disposable diaper company. It has financed its own scientific research showing that "disposable diapers are environment-friendly while cloth diapers must be washed with suds that foul our rivers." We consumers need to be wary of these possibilities of sloppy reporting.

One thing we can do as readers is to be alert for a sentence saying that the scientist was not financed by the company whose product is being reported on. We should also be alert for a sentence indicating that other researchers support the scientist's work. When such helpful sentences are absent, do we conclude that the reporter didn't check all this out, or do we conclude that he or she did but just didn't bother to tell us? We really are stuck in a dilemma. And there is a second dilemma. Do we accept the reported conclusion of the scientific research, or do we remain skeptical? We are too busy to check up on the report ourselves — we barely have enough time to read the entire article from just one reporter. Most reports we receive are not personally important enough for us to engage in a massive reading project to determine just what to believe. Ideally, we might want to withhold our judgment about cloth versus disposable diapers until we get better information, but realistically we will probably never get that information. Nor will we get definitive information about the thousands of other large and small issues facing us throughout our life, and we cannot go through life never having an opinion on anything. The philosopher George Santayana may have been correct when he said that skepticism is the chastity of the intellect, but our intellects can't be skeptical all the time; we have to embrace most of the beliefs of the reporters. It is for this very reason that the information media are so powerful; they inevitably shape our minds even when we are trying to be logical reasoners and careful about what beliefs we adopt. The defense against this situation is to try and get information from a wide variety of sources.

#### -CONCEPT CHECK—

Identify the appeal to authority in the following piece of reasoning. Why should you be convinced by the speaker's reasoning?

Our government is standing in the way of progress. What the government should be doing is solving our problems. Yet the government is not doing this because it is not funding a request for what it needs most of all, a universal answering machine. This machine would give an answer to nearly all factual questions that were fed into it. For example, if you want to know if a piece of reasoning is fallacious, you input the reasoning into the machine and then check the output for an answer. If you want to know the cure for AIDS or for some other disease that has no known cure, then just feed in the question, and the universal answering machine will give the correct answer. The machine would do all this without the programmer first feeding it the answers. We don't have such a machine yet, but we should get one right away because having it would be so helpful. Scientific reports show that its creation is not far off; there just needs to be a major increase in funding. There should be a lot of money offered for the best grant applications. That grant money will draw in the best scientific minds to work on this most important project.

The government knows about the universal answering machine project. I wrote Congress and the president two years ago about it. Their inaction shows that the government is standing in the way of progress. Either they are stupid, or there is a cover-up.

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<sup>187</sup> The speaker is wrong when he appeals to authorities by saying "Scientific reports show." The reports show no such thing, at least so far. The reasoning is based on the assumption that such a machine is feasible. There is good evidence that it isn't feasible; the government recognizes this, which is why it has not acted. In short, the speaker is a

### **Spotting an Authority's Bias**

There is an additional element you have to worry about when someone appeals to authority: bias on the authority's part. Suppose a British politician claims that there is no significant corruption in Venezuela's oil ministry. The politician's evidence is that the chief oil minister of Venezuela was quoted in last week's *Newsweek* magazine as saying his ministry is free of corruption. Should you accept the British politician's argument? Well, since you probably don't know anything about Venezuelan oil, isn't the oil minister in a better position to know whether there is corruption in his oil ministry? Yes, and he is the right authority on the matter. Also, you don't have any reason to believe that he was misquoted. So shouldn't you accept the British politician's claim that there is no corruption? No. It is doubtful that this particular authority will tell the truth. Wouldn't he be likely to cover up corruption if it existed?

When someone wants you to accept a claim because a certain authority says it is so, you should ask yourself a few questions:

- 1. Is the authority an authority on this subject?
- 2. Do the authorities agree with each other (except for the occasional lone wolf)?
- 3. Can the person who appeals to the authority be trusted to report honestly and accurately what the authority said?
- 4. Can the authority be trusted to tell the truth on this topic?

Only if you get "yes" answers to these questions should you go ahead and accept what the authority says. Still, look before you leap. For example, all of us trust doctors to be authorities. They have expert knowledge that we do not have. What would you do, though, if you ventured into a doctor's office with symptoms of flu and the doctor said, "I'm sorry, but your leg has to come off right away; sign this release form, and we will get you straight into the hospital"? The principle of logical reasoning that you apply at this moment is the following: When the stakes are higher, it is more important to get better evidence before making the decision. Besides, you might learn that the authorities disagree among themselves about whether your leg needs to be removed.

Appeals to expert opinion will sometimes lead you to error. Even experts make mistakes. However, occasional slip-ups by the experts are no reason to quit using authorities as sources of knowledge.



You've been asked to research living conditions in two large American cities, Kansas City and Baltimore, especially whether the cost of living of the average person is greater in one city or the other. The cost of living encompasses the cost of food, housing, car insurance, and other regular expenses. Which person below would be most likely to give you the best answer or the best suggestion on where to go to get the answer?

- a. A local building contractor who owns land in Baltimore and who has recently built homes and apartments in both Baltimore and Kansas City.
- b. Your college's urban studies professor.
- c. Your uncle who lived in Baltimore for five years before moving to Kansas City last year.
- d. The personnel director of the company that offered you a new job this week in Kansas City.

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Here is a more difficult question about how to assess whether someone is an authority.

#### -CONCEPT CHECK----

Below is a brief biography of a person, followed by a list of topics. Rank the topics according to her expertise in them, beginning with those on which she would be able to speak with the most authority.

Judy Wilson is currently the director of government documents for the Library of Congress in Washington, D.C. Ten years ago she took a three-year leave from the library to co-direct the census for the Chinese government in Beijing. In 2001 she received a Ph.D. from the Food Research Institute at Stanford University, where she wrote her dissertation on current food consumption patterns throughout China. She published a book four years later on mathematical methods in geography and has published several scholarly articles on the wages and working conditions of women in Asia and Africa.

How can interested members of the public obtain classified research documents as they are declassified and released by the Pentagon and the National Archives?

a. Are Chinese and Indian foods as popular in the U.S. as they were five years ago?

<sup>188</sup> Answer (b). Who is going to know more about the cost of living in a city — somebody who lives there or somebody who studies the city? The urban studies professor is supposed to be an expert who studies cities in all their aspects, and the professor would not have a reason to give a biased answer. If the professor didn't know the answer, he or she would definitely know how to get it. The personnel director might well be biased. Your uncle can speak only from personal experience, as far as you know, and probably doesn't know the statistics; yet the statistics would be a more reliable source of information than firsthand stories even from someone you trust. The building contractor could well know about the cost of housing, but there is little reason to suspect he would know about the cost of other aspects of living in the two cities.

- b. Are more women raped in Japan than in China?
- c. Are the disabled people in China currently as well fed as those elsewhere in Eastern Asia?
- d. Would an accurate census be more difficult to carry out in Ecuador or in Egypt?

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# **Slippery Slope Fallacy**

Watch out starting down a slippery slope. You might fall to the bottom and hurt yourself. That's the idea behind the slippery slope fallacy, but it is a form of fallacious reasoning if there is no good reason to believe you will fall to the bottom after that first step. For example, someone might argue that you shouldn't smoke cigarettes because, if you do, then you'll soon be smoking cigars, and then smoking marijuana, and then cocaine and heroin, and pretty soon you'll be lying under the bridge unconscious with an infected needle sticking out of your arm. Fallacious reasoning, right? There are perfectly good reasons for not smoking cigarettes, but this isn't one of them.

The form of a slippery slope fallacy looks like this:

A leads to B.

B leads to C.

C leads to D.

D leads to ...

... which leads to HELL.

<sup>189</sup> She could speak with the most authority on (a) and the least on (b). She must know when and where classified documents get released by government agencies because her section of the library would most probably be the first to get them of any library in the country. There is no reason to suppose she knows anything special about rape. She might know how to count the disabled people in China, if this were a question on the Chinese census that the government wanted answered (and you don't know whether it is), but there is little reason to suppose she would be interested in how well they eat today, even though she did study food consumption patterns. Regarding (e), she has expert knowledge about how to do a census, but there is no good reason to suppose she could give a decent answer about the problems of conducting one in Egypt versus Ecuador. Regarding (b), she is unlikely to have solid information about the popularity of Chinese and Indian food with U.S. consumers. There is no reason to suspect her degree in food research would provide her with expertise on the current popularity of such foods. So, on this topic she is likely to speak from her own experiences rather than from reliable statistical data. Therefore, the ranking should have (a) on top. Then ranked equally, you'd have (c), (d), (e). Place (b) at the bottom of the ranking.

We don't want to go to HELL. So, we should not take that first step A.

If A leads to B with a probability of 80 percent, and B leads to C with a probability of 80 percent, and C leads to D with a probability of 80 percent, is it likely that A will eventually lead to D? No, not at all; there is about a 50 percent chance. The proper examination of a slippery slope argument depends on sensitivity to such probabilistic calculations.

# **Genetic Fallacy**

A critic commits the genetic fallacy by attempting to discredit a claim because of its origin (genesis) when such a criticism is irrelevant to the claim. Suppose a friend of yours is reading the newspaper and mentions a report about Senator Friedman's bill to redraw the boundaries of the political districts in your state. Your friend is describing the senator's reasons for the new boundaries when he surprises you by mentioning that, according to the article, the senator got the idea for the new boundaries from a dream she had one night. You say to your friend, "Hey, stop right there. There's got to be something wrong with Senator Friedman's reasons, because she got the idea from a dream." When you say this, you are committing the **genetic fallacy** because you are paying too much attention to the genesis of the idea rather than to the content of the idea and the justification offered for it.

Similarly, if Sigmund Freud, the father of psychiatry, had said that a patient's reasons for believing in God must be faulty because she arrived at her belief as a product of needing a strong father figure who would protect her and answer her prayers, Freud would have been committing the fallacy.

Sometimes more than fallacy label can be assigned to the same error. For example, suppose you were asked to evaluate the reasoning in the following passage:

In a recent American presidential campaign, a U.S. senator was running against the president for the party's nomination. The senator argued in a speech that the president should be held responsible for an international crisis that hurt American influence in the world because the president had advance signals of the coming crisis but had not acted effectively to prevent the crisis. How did the president reply? By dismissing the senator's argument on the grounds that it was "politically motivated."

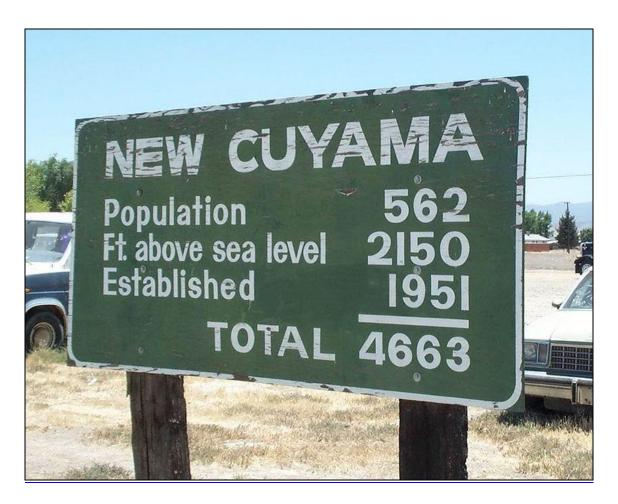
Clearly the president, and not the senator, made the error in reasoning here. What error, though? There are several ways to correctly label the mistake:

- a. Ad hominem, because the president attacked the senator's character as being that of a politically motivated person.
- b. Fallacy of avoiding the issue, because the president did not address the senator's question of who is responsible for the crisis but instead chose to change the issue to whether the senator's charges were politically motivated.

c. Genetic fallacy, because the president attacked the genesis or origin of the senator's complaint rather than the complaint itself.

# **Non Sequitur**

Suppose you've been shopping for a TV set and I tell you not to buy a television set today because it is Tuesday. "Why Tuesday?" you might ask. "Because Tuesdays are so boring," I answer. I have a reason for your not buying the TV set, so I have an argument. But what sort of argument? The reason is so weak that many people are apt to say, "That's no reason at all." My reason may not be totally irrelevant to the issue, but it does not provide significant support for my position on the issue. It would only convince somebody who already was anti-Tuesday or opposed to your purchase, and even if this did convince them it should not convince them. When a conclusion is supported only by weak reasons or by irrelevant reasons, the argument is fallacious and is said to be a **non sequitur**. This Latin term means "does not follow." Any fallacious argument is one whose conclusion doesn't follow from its supporting reasons, so any fallacious argument is appropriately called a "non sequitur." However, we usually apply the term only when we cannot think of how to label the argument with a more specific fallacy name and when it is fairly easy to show that the reasons are weak.



Sometimes when we say, "That's no reason at all," we do expect to be taken literally, because there really is no reason there. If so, there is no argument, and thus no non sequitur fallacy either. Although there is a fuzzy line between a radically weak argument and no argument at all, there is a difference between the two. The weak one has at least some reasons; the other does not. Here is an example of a disagreement in which a person thinks he is giving an argument but in fact is giving no argument at all:

NON-ARGUMENT: Rafael, you really ought to vote for the Democrat. I just don't understand how you can think of voting for that Republican. I mean, where's your head? The Democrat is so obviously the one to vote for, you should do it and get it over with. Don't sit there and even think about that Republican.

If there were an argument here, the conclusion would be for Rafael to vote for the Democrat. But there is no argument because there is no reason given for the conclusion. Sometimes the term *non sequitur* is defined more broadly to include a non-argument that is mistakenly put forward as an argument. On that definition, the above non-argument would count as a non sequitur, but we won't use the term that way.

Here is another example of a passage that you are apt to react to by saying, "That's no argument at all":

NON SEQUITUR ARGUMENT: Nuclear disarmament is a risk, but everything in life involves a risk. Every time you drive in a car you are taking a risk. If you're willing to drive in a car, you should be willing to have disarmament.

At this point you might think, "Hey, that's no reason for disarmament," by which you really mean that it's not a good reason. All it is saying is that the risks of disarmament are OK because some other risks are OK. Well, some other risks are OK, but some are not OK. So the reason given is extremely weak.

In summary, whenever you react to a piece of reasoning with a comment such as "Hey, that's no sensible reason for that," you've probably detected a non sequitur fallacy.

#### -CONCEPT CHECK-----

Is the following argument a non sequitur? If it is, explain why.

Your information shows part of Canada is south of part of California. Therefore, we can be sure that John was right when he said, "Some of Canada is south of part of either California or Nevada."

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### **Review of Major Points**

The logical reasoner sticks to the issue, makes only relevant remarks, doesn't withhold relevant information, and accurately represents the position of the opposition. Failing to do some of these things is the source of the following fallacies: ad hominem, straw man, false dilemma, faulty comparison, fallacious appeal to authority, genetic fallacy, and non sequitur. In this chapter we saw how to identify these fallacies and how to revise passages containing them. There are many more fallacies, although these are some of the most important and common ones. A more comprehensive list of the fallacies is presented in the *Internet Encyclopedia of Philosophy* at: http://www.iep.utm.edu/fallacy.htm

The world is full of con artists, many of whom are out there right now thinking of new ways to con you into doing things for the wrong reasons. You, the logical reasoner, need eternal vigilance.

<sup>190</sup> It is not a non sequitur because the supposed information would give a good reason to believe the conclusion if it were true. As a matter of fact, the information *is* true.

### Glossary

**ad hominem fallacy** Attacking an argument by pointing out some irrelevant characteristic of the reasoner rather than by pointing out some error in the reasoning itself.

black-white fallacy A false dilemma fallacy that limits you to only two choices.

**escape between the horns of a dilemma** Rightly complaining that the dilemma you face is unfair and that there is another choice that you should be offered.

**fallacy** A kind of error in reasoning.

**fallacious appeal to authority** An appeal to authority in which the authority is not really an expert in this subject or cannot be trusted to tell the truth, or in which authorities disagree on this subject (except for the occasional lone wolf), or in which the reasoner misquotes the authority.

**fallacy of faulty comparison** Arguing by comparison but comparing the wrong things.

**false dilemma fallacy** Unfairly presenting too few choices and implying that a choice must be made only between the offered choices.

**genetic fallacy** Attempting to discredit a claim because of its origin (genesis) when such a criticism is irrelevant to the claim.

**non sequitur** "Does not follow"; an argument in which the reasons given are irrelevant or very weak. All fallacies of argumentation are non sequiturs.

**refutation** A disproof. A refutation of another person's position is an argument that successfully shows the other person's position to be false. You don't refute someone merely by contradicting them.

**straw man fallacy** Falsely attributing an easily refuted position to one's opponent that the opponent wouldn't have proposed himself and then proceeding to attack the easily refuted position. The opponent is a real man (or woman) with a real argument; the easily refuted position is an artificial position held by an artificial person — the "straw man." It's easier to attack a straw man; nevertheless, the attack is irrelevant. It is a diversion from the main issue.

### **Exercises**

■ 1. Label the fallacy committed by the district attorney in the following passage, and rewrite it to remove the fallacy.

Will you tell the jury where you bought the gun used to shoot the liquor store clerk? Just a simple "yes" or "no" please. 191

■ 2. Create an ad hominem fallacy in your response to the following:

I don't think it's appropriate at all to celebrate Columbus Day. The holiday honors a man who was responsible for the destruction of millions of Indians. People think Christopher Columbus was a good man, but he wasn't. We opened our arms to welcome him, but he took the land from us.<sup>192</sup>

- 3. Create a believable dialogue between two people in which the first person uses a non sequitur. Make the non sequitur be a serious argument, not a silly one. Have the second person point out the fallacy, and have the first person agree and correct the error in a way that now does make the point that was originally intended. Begin with a helpful description of the situation by giving background information to aid the reader in understanding the issue involved.
- 4. Suppose I decide not to buy a television set today because my horoscope says it is a bad day for buying anything. I have a reason for not buying the TV set, but is my reasoning a non sequitur?
- 5. Does the following argument use a fallacious appeal to authority? Why?

Glass is mostly silicon atoms that slow the speed of light down to 122,000 miles per second. I know this because I overheard one of the employees at the science museum say so.

191 This is a black-white fallacy. An innocent person would have a tough time finding an answer if the question were taken literally. The defendant could escape the two unpleasant choices by saying, "Hey, I never bought any gun, and I never shot the clerk." This defense via pointing out a third possibility besides the two unpleasant ones is called "escaping between the horns of the dilemma." The D.A. should not have required a simple yes or no answer.

To remove the fallacy, you could make a variety of changes; the easiest is to say, "Did you shoot the clerk?" followed by "Did you buy a gun?" An acceptable question would be "Just a simple yes or no: did you buy the gun used to shoot the liquor store clerk?" It is not really sufficient to rewrite the question as: "Will you tell us where you bought your gun?" Assuming this is still a yes-no question, the question does not permit the option of "I never bought any gun."

192 "Hey, you are wrong about Columbus Day; you're some sort of bleeding heart liberal, so your word cannot be trusted." The personal attack alone isn't enough to make the fallacy; you must also suggest that this attack somehow shows that the person's reasoning is unreliable. Here is a different sort of ad hominem fallacy: "What do you know about Columbus Day? You and everyone else in your radical organization are out to smear the good name of white people." This latter kind of ad hominem fallacy is called the **fallacy of guilt by association,** because the reasoner is said to be guilty of error because of groups he or she associates with.

- 6. Suppose you notice a webpage containing a news article headlined "SCIENTIFIC RESEARCHER CLAIMS LITTLE GIRL CAN CONTROL DICE WITH HER MIND." The article reports on an investigation performed by a parapsychologist who examined a ten-year-old girl who said she could predict the outcome of rolling two dice, provided she rolled the dice. In response to that article, a friend of yours says, "I am not going to be influenced by that silliness. The parapsychologist is a well-known member of a far right political organization, and she once posed nude for *Playboy* magazine." This response from your friend is an example of
  - a. an ad hominem fallacy
  - b. a fallacious appeal to authority
  - c. a false dilemma
  - d. a slippery slope<sup>193</sup>
- 7. Is a fallacious appeal to authority committed in the following argument for the conclusion that men are naturally better at basketball and weightlifting?

*John*: Men make better basketball players than women do. I would say the same about weightlifting, too.

*Sarah*: Yes, I agree. You rarely see women competing in these sports. However, someday, when interests change, women will be as good as men.

*John*: Oh, no, I wasn't clear. I mean that men will always be better, because men are just naturally better at these sports. Average men will be better than average women, and the best men will be better than the best women.

Sarah: What makes you say this?

*John*: I've consulted an expert, that's why.

Sarah: Oh yeah, who?

*John*: My mother.

Sarah: Ha! Your mother. Who's your mother?

*Iohn*: She was a coach.

Sarah: So?

*John*: She's athletic director at a women's college; she once was hired by a state university to scout high school basketball players, men and women, for potential athletic scholarships; she is a specialist in sports physiology; and she has carefully followed basketball and weightlifting at all levels of the sports. She even wrote an article about all this for Sports Illustrated magazine.

*Sarah*: Well, that may be true about her, but I still think that women could be as good as men if they just had an equal chance.

John: No way. Women are hopeless. They should not even be allowed to try out.

- 8. Create an original paragraph that uses a believable but fallacious appeal to authority.
- 9. Create an original example of the straw man fallacy in response to the following argument:

<sup>193</sup> Answer (a). This is an attack on the reasoner rather than on the reasoner's reasoning.

I urge you to join the campaign for the proposal. This initiative proposal is in circulation under the tide "Law Invalidation." It is an initiative constitutional amendment, sponsored by two private citizens, that seeks to abolish the California State Bar Association. This leaflet shows you that ten prominent attorneys support the proposal. 194

- 10. Suppose Jones argues for some point x. Suppose x is attacked by Smith for two reasons: x implies y, and y is incorrect. If Smith is correct about both reasons, his argument is
  - a. a straw man
  - b. an ad hominem
  - c. avoiding the question
  - d. not fallacious
  - e. irrelevant to the issue of whether x is so.
- 11. State how to go between the horns of the following dilemma. Ignore the loaded language.

I understand what you are saying about business ethics, but you need to see it from the businessperson's perspective. The choice in business is simple: either I adopt a vow of poverty and go for sainthood, or I take the more sensible path of maximizing personal income no matter what.

- 12. Create a straw man fallacy in your response to the passage in Exercise 2 about Columbus Day, and then explain why your response deserves to be called an example of that fallacy.
- 13. Which choice below is a single horn of the false dilemma created by the speaker?

There are no black women conductors of major American symphony orchestras. I can guess why. Either black women aren't musical, or else God wanted no black women conducting those orchestras. But we all know there are some black women who are musical, so I guess it's all part of God's plan.

- a. God wanted there to be no black women conductors of major American symphony orchestras.
- b. There are no black women conductors of major American symphony orchestras.
- c. Black women are musical.

194 Here is one of many ways to create the straw man fallacy:

The arguer is asking you to join in holding up our lawyers and judges to public ridicule. This is a simple witch hunt, like that in Puritan New England hundreds of years ago. Do you really want to engage in this sort of disgraceful behavior? Hasn't our society lifted itself above the narrow intolerance of the past?

- d. Either black women aren't musical, or else God wanted no black women conducting those orchestras.<sup>195</sup>
- 14. You will commit the fallacy of faulty comparison if you
  - a. compare apples with tangerines and then say that the cost per pound of one is outrageously high in comparison with the cost per pound of the other.
  - b. fail to compare apples that you are offering for sale with apples that are rotten.
  - c. compare apples with oranges and fail to consider that at current prices, two apples equal one orange in California but not in New York.
  - d. promote the health value of your own apples over the competition's apples by comparing the health of eaters of your apples with people who eat no fruit at all.
  - e. say that Jones & Jones gloves are best for protecting gardener's hands on the basis of a comparison between those gloves and other means of hand protection, including the competition's gloves.
- 15. Is the fallacy of faulty comparison committed in the text of this 1950s magazine advertisement?

MORE DOCTORS SMOKE OUR CIGARETTE. Check for yourself-smoke our cigarette and see if you don't get less throat irritation.

■ 16. What fallacy, if any, is committed here?

Physicist Jones won the Nobel Prize for his advances in astronomy. Physicist Jones says Republicans are ruining the economy. So, Republicans are probably ruining the economy. <sup>196</sup>

17. Which fallacy, if any, occurs in the following piece of reasoning?

I left my car keys in the house. I've looked carefully all over the bedroom for my car keys and failed to find them. Therefore, I left them in some other room.

a. fallacious appeal to authority

195 Answer (a). The two horns of this dilemma are stated in choice (d). Choice (a) expresses just one horn of that dilemma.

<sup>196</sup> Appeal to inappropriate authority. In this argument, *so* is a conclusion indicator term, and the conclusion is preceded by two almost irrelevant reasons.

- b. ad hominem
- c. avoiding the question
- d. straw man
- e. false dilemma
- f. none of the above
- 18. What is the best characterization of the following passage?

As of January 23, 1977, 88 percent of all U.S. homes had at least one TV set. As of January 23, 1987, 77 percent of all U.S. homes had at least one color TV set. So, as of January 23, 1997 nearly 66 percent of all U.S. homes will have a cell phone.

- a. straw man
- b. fallacious appeal to authority
- c. ad hominem
- d. non sequitur
- e. no fallacy occurs here; it's fine reasoning
- 19. During a heated battle in an earlier century, a Prussian emperor, whose troops were displaying fear, urged his men forward with "Onward! What do you want? Do you want to live forever?" Identify a false dilemma here. What is a reasonable way for a Prussian soldier to escape between the horns of this dilemma? First, explicitly define the dilemma. (Hint: The dilemma is not between living and dying, nor between obeying and disobeying.)
- 20. The verb *go* is conjugated in the present tense as I go, you go, he goes. Bertrand Russell once said that something can be learned from the correct conjugation of words. For example, he conjugates the word *firm* this way: I am firm; you are obstinate; he is a pig-headed fool. What point is Russell really making?<sup>197</sup>
- 21. Comment on the quality of this argument:

Microorganisms are small living creatures that can be seen only through a microscope. Bacteria, yeast, and molds are the three most important microorganisms in food

<sup>197</sup> First, notice that Russell is making a joke. He is not committing the ad hominem fallacy, nor is he making a point about conjugation. The serious point behind the joke is that we don't judge others by the same standards that we judge ourselves. The more distant the actor is from us, the more likely we are to see the fault in the action. Therefore, this passage offers an example of how reasoners (other than Russell) often do not treat the issue fairly.

fermentation. Therefore, the most important microorganisms in food fermentation are bacteria, yeast, and molds.<sup>198</sup>

22. Comment on the quality of the following reasoning and give a justification for your comment.

Listen, Jerry. You've been convicted twice of molesting children, so your reasons for why the new child-care center should be built near your house aren't going to be acceptable to this committee.

23. What fallacy or fallacies, if any, are committed in the following passage?2

The scientific method simply sets a rigorous yet easily communicated standard for communicating information. . . . Before a scientist can accept a phenomenon as conclusively proven, several things must happen: First, the experiment must be designed so that no other factors can account for the result. A psychic may correctly identify all the cards in a Zener deck [a set of symbols used for testing telepathy] — but if the cards were so thin they could be read through their backs (as has happened), the experiment doesn't prove anything. The scientist also demands that findings should be repeatable by other scientists in other locations following the same methods. If not repeatable, the result is not conclusive. Now apply these standards to t he case of the paranormal. Scientific tests going back more than a century have shown a resounding inability to provide solid evidence for the existence of telepathy, clairvoyance, psychokinesis [moving things by mind power], precognition [seeing the future], levitation, reincarnation, transmigration [of souls], or miraculous healing.

- 24. Juan argued that bluegrass is the best food for cattle in the Midwest. Sammy objected by citing how the authorities at the U.S. Department of Agriculture recommended alfalfa over bluegrass for Midwestern cattle. If Juan counters this objection by arguing that the U.S. Department of Agriculture is a bloated bureaucracy with too much fat that deserves to be cut in the next federal budget bill, then Juan has
  - a. committed a fallacious appeal to authority.
  - b. committed a false dilemma fallacy.
  - c. committed the fallacy of avoiding the issue.
  - d. refuted Sammy's position.<sup>199</sup>

198 The conclusion, which is signaled by the conclusion indicator term *therefore*, is just a restatement of the reason for the conclusion. The conclusion does not "go anywhere." Logicians call this kind of fallacy **circular reasoning**.

199 Answer (c). Choice (b) is incorrect because Juan's attack on the U.S. Department of Agriculture is not an attack on the arguer.

25. Imagine what somebody might say who sincerely disagrees with one of your own beliefs. Construct a 300-500 word argument that gives reasons for why your belief is incorrect. That is, argue for the other side of the issue. Begin by stating the issue. The new argument must contain no fallacies and no loaded language.

26. Revise the sentence below to correct the errors:

In the Dark Ages, people lived in a world free of diseases from microorganisms, because the germ theory of disease wasn't discovered yet.

■ 27. Examine the following conversation and look for a fallacy in the reasoning:

*Mother*: My fifteen-year-old daughter failed two courses at school. The worst part is, she didn't even try. She just said, "Oh well, it's not important." If she had tried and failed, that wouldn't be so bad.

*Friend*: Are you sure it wouldn't be so bad? Maybe it would be worse if she tried and failed.

*Mother*: No, it wouldn't, because if she tried she probably wouldn't fail the two courses.

*Friend*: Oh, I think I see what you mean. Do you mean that anybody who tries will succeed at least in the sense that they did try and didn't just give up?

*Mother*: No, I just mean that if my daughter tries, she most likely will get a grade higher than an E.

Who made the error, the mother or the friend? What error?<sup>200</sup>

- 28. Revise the dialogue above between the mother and her friend so that it no longer commits the fallacy.
- 29. Create an ad hominem fallacy in your response to the following argument:

Our department could use the new MouseMan mouse. Since it doesn't use a wire connected to the computer, buying it won't cause more desk clutter. Also, it doesn't have the annoying electrical interference problems that plague other infrared cordless mice.

<sup>200</sup> The error was made by the mother. She did not respond to her friend's question about whether it would be worse for the daughter to try yet get an F than not to try at all. Therefore, the mother committed the fallacy of avoiding the question, regardless of whether she avoided it on purpose or simply didn't get the point of the question.

And new MouseMan "sleeps" when you're not working, so a common battery lasts up to a year inside of it. Sounds perfect to me. Let's order a batch of these mice.