

Unit 7

Fallacies

Introduction

The name “fallacy” is generally given to a style of argument that often leads the arguer or listener (or both) to accept a conclusion that is not rationally supported by the evidence, although not all styles of argument traditionally called “fallacious” fit this description. What follows is a limited selection of fallacies, common types of arguments that have something problematic about them.

Learning objectives

Upon completion of this unit you should be able to:

1. state the names of the six fallacies presented;
2. describe the argument forms associated with each fallacy;
3. recognize that arguments are not fallacious in these ways merely because they have the form they do; and
4. identify these six fallacies in everyday arguments.

Assigned reading

Steven J. Gould, “The Panda’s Thumb.”

How to proceed

1. Read study notes for unit 7.

For each fallacy described, make up two arguments of your own: one argument displaying the fallacy, the other argument in the same style, but non-fallacious.

2. Do the assigned reading and answer the following questions:
 - What is Gould’s argument for the conclusion that evolution has taken place through natural selection?
 - How good is that argument?
 - How important is it that Gould brings up only a few odd examples? Does he commit the fallacy of hasty generalization?
3. Once you have thought about these questions, submit your answers by clicking on **course discussion** on the course web site and compose your message. Fellow students will give feedback, and perhaps ask questions. In addition, your instructor will respond to comments from students, and may ask for clarification on student views stated in the discussion.

Study notes

In a sense, there is no need to study fallacies. After all, they are just errors in arguments, and so they must involve, in one way or another, ways in which an argument cannot reasonably be expected to rationally convince its target audience of its conclusion on the basis of its premises. That is, fallacies are just special cases of the general sorts of flaws already discussed at great length. There are, however, at least two reasons to study fallacies particularly. The first is that you are taking a course on critical thinking, and if there is anything common to most courses on critical thinking, it is that they study fallacies. Just for the sake of sharing a common background of ideas and a common vocabulary with others, there is some value to studying fallacies. There is a more specific sort of value as well, however. Because fallacies are particularly tempting sorts of errors, there is a point to studying them especially closely. Knowing abstract principles is one thing, applying them is another, and studying fallacies is one way to make it easier to move from abstract principles regarding arguments to applications of those principles.

An important point to make about fallacies is that an argument, which has the basic structure of a fallacy, need not have anything wrong with it (though this depends on the fallacy in question). In other words, many arguments that look fallacious genuinely are bad, but others are perfectly reasonable arguments, and the structure of the argument will not tell you whether it is one or the other. Determining whether an argument is fallacious is thus a judgment call, with no algorithmic procedure for getting a correct answer. Thus, a full discussion of fallacious arguments requires also discussing structurally similar arguments, which are not fallacious at all. Keep this in mind as you read on.

Because many fallacies were described by scholars writing in Latin, many have traditional Latin names in addition to their English names, and these appear, when appropriate, in parentheses.

The Fallacy of Hasty Generalization (*Secundum Quid*)

One makes a quick generalization when one concludes that numerous cases (perhaps all cases) will present some feature, based on the belief that one or a few cases present that feature. A justified quick generalization is one made when the limited evidence justifies the broad conclusion. For instance, perhaps there is a reason for the sample having the feature, and the same reason holds for the rest of the population. An unjustified quick generalization (i.e., a hasty generalization) is one made when the limited evidence does not justify the broad conclusion. For instance, perhaps the reason the sample has the feature is unlikely to be common across the rest of the population.

The following two examples will illustrate the point:

Example 1

Two people heading to the stadium said they were going to watch the football game. So I suppose most everybody going to the stadium is going to watch the football game.

- Premise Two people heading to the stadium said they were going to watch the football game.
- Conclusion Most everybody going to the stadium is going to watch the football game.
- Evaluation This argument is not a fallacy. Two people are unlikely, in general, to lie about why they are going to a stadium, so probably they are doing what they say they are doing. But if two people are going to a stadium to watch football, then there is probably a football game on, and it has probably been advertised. Since stadiums do not generally book two events for the same day and time, the football game is probably the only reason to go to the stadium. Hence we have every reason to believe that others going to the stadium are also going to see the game (with perhaps a few exceptions—ticket vendors, athletes, etc.).

Example 2

The first assignment was very easy, so the other assignments will also be easy.

Premise The first assignment was very easy.

Conclusion The other assignments will also be easy.

Evaluation This argument makes a hasty generalization, and so is fallacious. It often happens that the first assignment in a course covers easier material than later assignments.

The slippery slope fallacy

One makes a slippery slope argument by holding that, if we let one thing happen, other (and worse) things of a similar kind are likely to happen as a result, and so we should not let the first thing happen. A slippery slope argument is a fallacy when there is no good reason to believe that the other, worse things will happen. A slippery slope argument is not fallacious when there exist good reasons to believe that the bad consequences are likely (or at least, that the chance of them doing so is fairly high compared to the badness of the outcome).

Example 1

Society cannot let doctors become involved in euthanasia, or they'll start thinking that they can make such decisions all on their own. There's a good chance that, left to play God, doctors will eventually be killing whomever they want.

Premise 1 Doctors involved in euthanasia will start thinking that they can make such decisions all on their own.

Premise 2 There's a good chance that, left to play God, doctors will eventually be killing whomever they want.

Conclusion Society cannot let doctors become involved in euthanasia.

Evaluation This argument commits the slippery slope fallacy. Doctors in some other countries, notably Holland, have been involved in euthanasia without killing whomever they want. Furthermore, doctors tend to

be people drawn to helping other people, and so would be especially unlikely to kill others for frivolous reasons.

Example 2

I can't let little Roberta pressure me into letting her stay up late two nights in a row. If I do, she'll want to do it all the time.

Premise If I let little Roberta pressure me into letting her stay up late two nights in a row, she'll want to do it all the time.

Conclusion I shouldn't let little Roberta stay up late two nights in a row.

Evaluation This is probably a reasonable argument, though obviously it is hard to evaluate it without knowing more about little Roberta. In general, however, it is true that small children do take advantage of precedents their elders set in order to gain greater privileges. If it would be bad to grant Roberta the privilege of staying up late, which (given school considerations) is plausible, then the conclusion probably follows as fairly probable.

The fallacy of attacking the person (*Argumentum Ad Hominem*)

In a debate, it may happen that one person makes a claim or an argument and another person makes a counter-argument aimed at showing that the claim is false or the argument is bad. When such a counter-argument is made by means of bringing up some fact, not about the claim or original argument itself, but about the person making it, the counter-argument attacks the person. For such an argument to be fallacious is for the facts mentioned about the person not to be relevant to evaluating the person's claim or argument. Such an argument is not fallacious when the facts about the person genuinely *are* relevant to evaluating the person's claim or argument.

Example

"Violent crime," says Victor "is actually on the decline, while reports of it in the mass media are on the rise." "That's what *you* say," responds Dahlia, "but then you would, you're such a radical activist—you can't ever believe what you see with your own eyes."

Victor's Claim:

Violent crime is on the decline, while reports of it in the mass media are on the rise.

Dahlia's counter-argument:

Premise 1 Victor is a radical activist.

Premise 2 Victor can't believe what he sees with his own eyes (when it conflicts with his radical beliefs [this is implied]).

Implicit Conclusion There is no reason to think that violent crime is on the decline, while reports of it in the mass media are on the rise.

Evaluation Dahlia probably commits a fallacy here, although it depends in part on what she knows about Victor. If he really tends to be deluded by

his desires for social change, then her argument is good, because then Victor would be completely unreliable any time he made a claim about some issue he cared about. The likelihood of Victor's claim is not made any greater, so far as Dahlia can tell, by Victor's being sure it is true. But if Victor doesn't tend toward delusions, then Dahlia's argument is bad. She rejects Victor's claim without showing the claim itself is unlikely and without showing that Victor is likely to be mistaken. Usually, people have good reason for making the claims they do, and unless she can show that this case is an exception, Dahlia ought to accept the conclusion as likely supported by some evidence or other which Victor has.

The fallacy of appealing to ignorance (*Argumentum Ad Ignorantiam*)

One makes an appeal to ignorance when one argues for the truth of a claim by saying that we do not have good reason to think that the claim is false. The appeal is fallacious when there remains lots of room for uncertainty about the claim, even though we do not have good reason to think it false. The appeal is not fallacious when, given that we do not have excellent reason to think the claim false, it is very likely to be true.

Consider the following two examples:

Example 1

We don't have any strong evidence that students at the university are unhappy, so they are probably happy.

Premise The speaker has no strong evidence that students at the university are unhappy.

Conclusion Probably the students are happy.

Evaluation This argument exemplifies the fallacy of appealing to ignorance. Overall student unhappiness can easily go undetected, unless one makes an effort to find out about it—after all, students do not generally complain to everyone they meet, nor do they have distinctively glum or cheerful looks about them at all times.

Example 2

I'm sure that Jean Chrétien is alive, because I haven't heard on the radio or anywhere else that he's dead.

Premise I haven't heard on the radio or anywhere else that Jean Chrétien is dead.

Conclusion Jean Chrétien is alive.

Evaluation This argument is not fallacious, even though it has the same structure as a fallacious argument. In this case, the premise is excellent support for the conclusion: Prime Ministers (and former Prime Ministers) are so much in the spotlight, and are so recognizable even to strangers, that something as noteworthy as

one's dying is certain to be noticed quickly, and to be announced as soon as noticed. Since the speaker indicates that he has been paying attention to at least one outlet of the mass media, and has heard nothing, he is reasonable in believing that, had Chrétien died, he would have heard. Hence not hearing is good reason for believing Chrétien to be alive.

The fallacy of appealing to popular opinion (*Argumentum Ad Populum*)

An argument appeals to popular opinion when it defends a claim by saying that a large number of people believe it. The argument is fallacious when the fact that many people believe its conclusion is not good evidence that the conclusion is actually true. One makes a reasonable argument appealing to popular opinion when the people to whom you appeal are quite likely to know the truth of the matter—when they have the relevant authority, for instance.

Example 1

We should go to The Latest Phad to dance. Lots of people have been saying they have great D.J.s.

Premise Lots of people have been saying The Latest Phad has great D.J.s.

Conclusion We should go to The Latest Phad.

Evaluation A reasonable argument, given a number of assumptions that are not stated but might be true. Assuming the speaker and listener agree on a style of dance club and are aware that the D.J.s at The Latest Phad cater to that style, and assuming there is nothing clearly better to do that evening, and also assuming good D.J.s are the key consideration in picking a dance club, then if the D.J.s are good, it would make sense to go to The Latest Phad. Now we come to the appeal to popular opinion: the only reason we are given for thinking the D.J.s at The Latest Phad are good is that many people have been saying so to the speaker. Is this good evidence? Given that people usually get information about dance clubs from others who share their tastes, the evidence is indeed good, though of course far from perfect. The argument is fairly convincing, if our background assumptions are correct, since in this case “popular opinion” can be expected to be reliable.

Example 2

Going out in the sun without a strong sun screen increases the risk of cancer in the long run. But scientists are going to find a cure for cancer in the next ten or twenty years—everyone says so. So I don't worry about the sun.

Premise 1 Going out in the sun without a strong sunscreen increases the risk of cancer in the long run.

Premise 2 Everyone says scientists are going to find a cure for cancer in the next ten or twenty years.

Sub-conclusion Scientists are going to find a cure for cancer in the next ten or twenty years.

Conclusion I have no reason to worry about going out in the sun without a strong sunscreen.

Evaluation The appeal to popular opinion is embedded inside this argument, forming the premise (premise 2) that leads to the subconclusion. In this case, the appeal is clearly fallacious. Most people have no good idea of what medical science will or will not be able to do in the future, and certainly no good idea of the timeline of future medical discoveries. That being the case, one cannot justify the subconclusion that science will soon find a certain cure for cancer (all cancers or even just skin cancer) on the basis of non-expert common opinion.

The straw man fallacy

It is both standard and entirely reasonable to explain your opponent's view before attacking it. For instance, if you are attacking the idea that handgun ownership should be legal, then you might want to first explain why defenders of handguns say that owning them should be legal, so that you can show their arguments to be flawed. However, when a person explains the opposing side's view in an unfair manner, making it easier to attack, that person commits the Straw Man fallacy. If you imagine a person beating up a straw dummy dressed like a hated rival, rather than the actual rival, then you will get a pretty good idea of from where this fallacy takes its name.

Example

People think that handguns should be legal because, if everyone were armed, then no one could safely harm any other person. But that's crazy! Just think of what a school full of kids with .22 pistols on their hips would be like—it wouldn't just be the child molesters who would fear for their lives!

Premise A school full of children armed with handguns would be a very dangerous place.

Conclusion The argument that handguns should be legal because, if everyone were armed, then no one could safely harm any other person is a bad argument.

Evaluation Even the most intense advocate of handguns does not hold that every seven year-old should carry a gun in school! To pretend that handgun advocates think absolutely everyone should carry a gun (as opposed to well-trained and responsible adults without criminal records) is to make their position sound less believable than it actually is. In this case, neither the conclusion nor the premise exhibits the Straw Man fallacy directly, but the person making the argument has clearly committed the fallacy in his own thinking prior to making the argument, and that has affected the quality of the argument.