Informal Fallacies

PHIL UA-70: Logic

February 17–19, 2015

Outline

Fallacies in General

Fallacies of Irrelevance

Fallacies Involving Ambiguity

Fallacies Involving Unwarranted Assumptions

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Fallacies of Irrelevance

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FALLACIES

- A *fallacy* is an error in reasoning.
- When an argument commits a fallacy, something has gone wrong with the *inference* from the premises to the conclusion.
- A *formal fallacy* is a fallacy that we may diagnose as bad simply by looking at the argument's *form*.
- We may show that an argument commits a *formal fallacy* by extracting its form - *be on guard! It must be the correct form!* - and showing that its form has a substitution instance with all true premises and a false conclusion.

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Formal Fallacies

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2. Russia wants war.

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3. So, Russia will invade Ukraine.

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Informal Fallacies

- An *informal fallacy* is a fallacy which we cannot diagnose by simply inspecting the argument's form; in order to diagnose the fallacy, we must look additionally to the argument's *content*.
- E.g.,

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2. Energy is proportional to mass.

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3. Zoë has more mass than Daniel.

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Informal Fallacies

"[A] note of caution: there is some debate about just which patterns of reasoning count as fallacies... Be warned... occasionally, an author will invent a fallacy simply to demonize some view that he or she disagrees with. By labeling a claim or argument form fallacious, the author is trying to make you think it's an error in reasoning that can be dismissed without much reflection, when in fact the argument may be sound and plausible." (Howard-Synder et. al., p. 188)

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ARGUMENT AGAINST THE PERSON (AD HOMINEM)

- An *ad hominem* is a way of responding to an argument that attacks the *person* rather than the *argument*.
- An *abusive ad hominem* attempts to discredit an argument by discrediting the person making that argument.
- **Example**: After Sandra Fluke argued before Congress that healthcare should include birth control, since it is used to combat ovarian cysts, Rush Limbaugh responded with: "What does it say about the college co-ed Sandra Fluke, who goes before a congressional committee and essentially says that she must be paid to have sex, what does that make her? It makes her a slut, right? It makes her a prostitute."

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Argument Against the Person (Ad Hominem)

- a *circumstantial ad hominem* attempts to discredit an argument by calling attention to some circumstantial features of the person making the argument (even though those features might not in and of themselves be bad-making features).
- **Example**: Robert Kennedy argues that we shouldn't have a wind farm in the Nantucket Sound because the wind turbines would kill thousands of migrating songbirds and sea ducks each year. However, Robert Kennedy is only opposed to the wind farm because he and his family have property in Hyannis Port whose value would be hurt by the building of the wind farms. So songbirds and sea ducks are just a distraction; we should build the wind farm.

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- a *tu quoque* attempts to discredit an argument by pointing out that the person making the argument hypocritically rejects the conclusion in other contexts.
- **Example**: Newt Gingrich called for Bill Clinton to be impeached for lying about his affair with Monica Lewinsky. However, at the same time, Gingrich was lying about his own affair. So, obviously, lying about one's affair isn't a reason to be impeached.

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ARGUMENT AGAINST THE PERSON (AD HOMINEM)

- Why it's fallacious: the argument swings free of the person who happens to be making it.
- A closely related but non-fallacious argument:
  - If the issue under discussion is whether the arguer is a good person, then personal attacks may not be fallacious
  - If the arguer is appealing to their own authority, then questioning the arguer's authority could be a perfectly reasonable way of rejecting one of the argument's premises.

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Not Ad Hominem Fallacies

- **Not An Example**: Aroosa claims that we should trust her when she says that climate change is anthropogenic, since she's a scientist. However, Aroosa is being bankrolled by environmentalist charities; she has financial reason to say that climate change is anthropogenic; so we shouldn't trust her.

Not Ad Hominem Fallacies

- **Not An Example**: Glenn Greenwald: "Barack Obama went further [than George W. Bush] by claiming the power not merely to detain citizens without judicial review but to assassinate them...He has waged an unprecedented war on whistleblowers, dusting off Wilson's Espionage Act of 1917 to prosecute more then double the number of whistleblowers than all prior presidents combined. And he has draped his actions with at least as much secrecy, if not more so, than any president in US history."

Straw Man Fallacy

- A *straw man fallacy* occurs when one misrepresents somebody else's position or argument (usually making it more simplistic or naive than their actual position or argument), and then argues against the misrepresented position or argument, rather than the person's actual position or argument.
- **Example**: Mr. Goldberg has argued against prayer in the public schools. Obviously Mr. Goldberg advocates atheism. But atheism is what they used to have in Russia. Atheism leads to the suppression of all religions and the replacement of God by an omnipotent state. Is that what we want for this country? I hardly think so. Clearly Mr. Goldberg's argument is nonsense.

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Appeal to Force (Ad Baculum)

- An *ad baculum* fallacy occurs when a conclusion is defended, or an argument attacked, by making a threat to the well-being of those who make it (or implying that bad things will happen to those who accept the conclusion or argument).
- **Example**: Anusar argues that workers are entitled to more of the firm's profits than management because they contribute more to the product. But no firm wants to hire an employee with radical views like that. That's why Anusar's been unemployed for so long. So it doesn't matter how much workers contribute; workers are entitled to what they get. If you think otherwise, you'll end up out of work like Anusar.

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Appeal to Force (Ad Baculum)

- *Why it's fallacious*: simply because you can avoid harm by accepting a certain statement, that doesn't give you any reason to suppose that the statement is *true*.
- *A closely related but non-fallacious argument*: if the harm being threatened is *relevant* to the truth of the conclusion, then an *ad baculum* might be perfectly reasonable.

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Not an Ad Baculum Fallacy

- **Not An Example**: You shouldn't smoke, or else you'll likely get lung cancer.

Appeal to the People (Ad Populum)

- *Ad populum* is a fallacy which attempts to argue for a conclusion by in some way appealing to people's innate desire to be accepted or desired by others.

  ***Example**: We Americans have always valued freedom. We understand that this freedom comes with a price, but it is a price we are willing to pay. True Americans resist the more extreme measures of the war on terror, like the Patriot Act. So, we need to repeal the Patriot Act.*

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Appeal to the People (Ad Populum)

Example: *I can't believe that you think we should curtail the freedom of speech in order to protect minority rights. Only fascists and kooks think that! So you should really reconsider your opinion.*

Appeal to the People (Ad Populum)

- *Why this is fallacious*: That holding a certain opinion will make you stand out from the group does not, on its own, provide any reason to think that that opinion is false.
- *A closely-related but non-fallacious argument*: If the arguer is pointing to the consensus of people who are in a better position to evaluate the evidence, then they could be making an appeal to authority, which needn't be fallacious.

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Appeal to the People (Ad Populum)

***Not An Example**: The biological community has reached a near-unanimous consensus that the hypothesis of evolution by natural selection is correct. Since they are experts on the subject, we should trust them that there is excellent reason to believe in the hypothesis of evolution by natural selection.*

Appeal to Ignorance (Ad Ignorantiam)

- An *appeal to ignorance* occurs when somebody argues in favor of a conclusion that we don't antecedently have any reason to accept (or which we antecedently have reason to reject) on the grounds that there's no evidence either way.
- Alternatively, it occurs when somebody argues against a conclusion that we don't antecedently have any reason to reject (or which we antecedently have reason to accept) on the grounds that there's no evidence either way.

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Appeal to Ignorance (Ad Ignorantiam)

Example: *The studies purporting to show that barefoot running is good for you have been discredited. However, there aren't any studies showing that it's not good for you - the jury's still out. So, you should keep running barefoot.*

Example: *There's no evidence showing that there's life on other planets. So we should stop looking - it's not there.*

Appeal to Ignorance (Ad Ignorantiam)

- *Why it's fallacious*: If we don't antecedently have any reason to accept or reject a claim, then, in the absence of evidence, we should suspend judgment.
- *Two closely-related but non-fallacious arguments*:
  - If you *do* have antecedent reason to accept or reject a conclusion, then the absence of any defeating evidence can provide good reason to continue believing the conclusion.
  - If certain evidence was *to be expected* if a certain statement were true (false), and we don't find that evidence, that can count as good reason to think that the statement is false (true).

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Appeal to Ignorance (Ad Ignorantiam)

***Not an Example**: The studies showing that circumcision reduces HIV transmission were badly methodologically flawed, so circumcision probably doesn't reduce HIV transmission.*

***Not an Example**: If he had been poisoned, the toxicology report would have revealed poison in his blood; it didn't; so, he probably wasn't.*

RED HERRING (IGNORATIO ELENCHI)

- The *red herring* fallacy occurs when somebody presents premises which might be psychologically compelling, but which are irrelevant to the conclusion.
- every other fallacy in this section constitutes an instance of the red herring fallacy. It is the most general fallacy of irrelevance.
  - Use 'red herring' to refer to fallacies of irrelevance which do *not* fall into the other categories. If a fallacy falls into one of the other categories, identifying it as a red herring, on, *e.g.*, a test, will not be correct.

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Red Herring (Ignoratio Elenchi)

***Example**: Jamal says that we shouldn't have a central bank because central banking is responsible for the economic fluctuations of the business cycle. But people have been banking for centuries. Bankers aren't bad people, and they provide the valuable service of providing credit to people who don't have their own capital. Jamal's just jumping to conclusions and probably needs to meet some bankers to see that they're not bad people.*

In Class Exercise!

Outline

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Fallacies of Irrelevance

Fallacies Involving Ambiguity

Fallacies Involving Unwarranted Assumptions

Equivocation

- The fallacy of *equivocation* occurs when a single word is used in two different ways at two different stages of the argument, where validity would require that the word be used in the same way at both stages.

  ***Example**: I own Hurley's A Concise Introduction to Logic. You have the same book. But any book that is the same as mine is my book. So you have my book.*

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Example: *In order to be a theist, as opposed to an agnostic, you must claim to know that God exists. But, even if you believe that God exists, you don't know it. Thus, you shouldn't be a theist. If follows that you should either be an agnostic or an atheist. However, once you've ruled out theism, what is there to be agnostic about? Once theism has been ruled out, atheism is the only remaining possibility. Therefore, you shouldn't be agnostic. Hence, you should be an atheist.*

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Equivocation

- *Why it's fallacious*: the argument gives the appearance of validity if we don't realize that the word is being used in two different senses throughout the argument. However, once we are clear about what the words mean, the argument either becomes invalid, or else has an obviously false premise.
- *A closely related but non-fallacious argument*: If an argument uses a word that has multiple meanings, but the premises are all true on a single disambiguation, then the argument does *not* equivocate.

  ***Not an Example**: I work at the bank, and there are fish at the bank. So there are fish where I work.*

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Amphiboly

- The fallacy of *amphiboly* occurs when multiple meanings of a sentence are used in a context where a) validity would require a single meaning, and b) the multiple meanings are due to sentence structure.

  ***Example**: You say that you don't keep your promises because it's in your interest to do so. People who don't keep their promises are immoral. So, you are immoral.*

  ***Example**: Game of Thrones is better than Duck Dynasty; Duck Dynasty is better than nothing. We can infer that Duck Dynasty is better than Game of Thrones.*

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- The fallacy of *amphiboly* occurs when multiple meanings of a sentence are used in a context where a) validity would require a single meaning, and b) the multiple meanings are due to sentence structure.

  ***Example**: You say that you don't keep your promises because it's in your interest to do so. People who don't keep their promises are immoral. So, you are immoral.*

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Amphiboly

- *A closely related but non-fallacious argument*: If an argument uses a sentence that has multiple meanings, but the premises are true and the argument valid on a single disambiguation, then the argument is not amphibolous.

  ***Not an Example**: Flying planes can be dangerous. You should avoid dangerous things. So, you should avoid flying planes.*

Composition/Division

- The *fallacy of composition* occurs when 1) a property of the parts of an object is improperly transferred to the object itself, or 2) a property of the individuals belonging to a group is improperly transferred to the group.

  ***Example**: Atoms are invisible, and I am made of atoms. So I am invisible.*

  ***Example (?)**: Every part of the world is caused. So, the world is caused.*

  ***Example**: Celebrity actors get paid more than non-celebrity actors. So the group of celebrity actors makes more money than the group of non-celebrity actors.*

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Outline

Fallacies in General

Fallacies of Irrelevance

Fallacies Involving Ambiguity

Fallacies Involving Unwarranted Assumptions

Begging the Question (Petitio Principii)

- An argument commits the fallacy of *begging the question* when it assumes the very conclusion that it is trying to establish.

  ***Example**: Surely Anthony loves me. For he told me he loves me, and he wouldn't lie to someone he loves.*

  ***Example**: My scale is working perfectly. I weighed this textbook, and it said that it was 12 ounces. And, as I just learned by looking at the scale, it is 12 ounces. So the scale got it exactly right!*

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- Question-begging arguments *are deductively valid*. They're just not especially persuasive.
- A word of caution: it is incredibly difficult in some cases to distinguish good, valid arguments from question-begging arguments.

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False Dilemma

- Two statements are *contraries* when they cannot both be true at once, but they *can* both be false at once.
  - 'John is rich' and 'John is poor'
  - 'Saturn is the largest planet' and 'Saturn is the smallest planet'
- Two statements are *contradictories* when they cannot both be true at once, *nor* can they both be false at once.
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Example: *Either you are with us or you are with the terrorists. If you're leaking classified information about our government, then you're not with us. So, you are with the terrorists.*

Example: *It would be terrible if the government regulated every aspect of a person's life - their clothes, their love life, their personal beliefs. So we shouldn't have government regulation; let the free market decide.*

Example: *It would be terrible if there were no government regulation of any behavior. There would be total anarchy, and those with the most money and influence would exert their arbitrary authority over everyone else. So we need the government to regulate the marketplace.*

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- *A closely-related but non-fallacious argument*: if we have good reason to set certain cases aside, then, so long as the argument is explicit that it is setting those cases aside, the argument will not be posing a false dilemma.
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***Not an Example**: Given that it's around noon, Dmitri is either in his office or at lunch. But he's not in his office, so he's probably at lunch.*

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In Class Exercise!