CRITICAL THINKING

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LECTURE 8

Fallacies of Presumption, Ambiguity, and Part-Whole Relations

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Summary

In this lecture, we will learn three more types of fallacies:

(1) Fallacies of Presumption:
- ◆ Begging the Question (e.g., circular argument)
- ◆ Complex Question (aka. loaded question)
- ◆ False Dichotomy (aka. false alternative)

(2) Fallacies of Ambiguity
- ◆ Equivocation (aka. word / semantic ambiguity)
- ◆ Amphiboly (aka. structural / syntactic ambiguity)

(3) Part-Whole Relations
- ◆ Composition (i.e., unsuccessful inference from part to whole)
- ◆ Division (i.e., unsuccessful inference from whole to part)

Part I. Fallacies of Presumption

Begging the Question (e.g., Circular Argument)

A set of premises – at least one of which (a) is the same as the conclusion, or (b) is equivalent to the conclusion, or (c) presumes the conclusion, or (d) presumes something that, although not equivalent to the conclusion, we wouldn't accept unless we have already accepted the conclusion.

Conclusion

P1.   The Bible is the word of God, who would never lie.
P2.   Everything said by the Bible is true. (from P1)
P3.   The Bible says that God exists.

C.   God exists. (from P2 & P3)

P1 already presumes C. It begs the question whether God exists – in manner (c).

P.   Abortion is murder, which by definition, is wrongful killing.

C.   Abortion is wrongful killing.

P is equivalent to C. It begs the question in manner (b).

Abortion is murder. So, abortion is wrong.

The premise begs the question in manner (d). For it already presumes that abortion is wrong – given that part of the meaning of "murder" is that it is wrong.

Notes:
- If an argument Begs the Question via manner (a), (b), or (c), then the premises have already assumed the truth of the conclusion. So it is a circular argument.
- Circular arguments are valid. But they are bad arguments, because they provide us no prior reasons for accepting the conclusion.
- A good argument should contain premises that are acceptable prior to (i.e., independently of) the conclusion.
- If an argument Begs the Question via manner (d), it is also a bad argument, for its premises are not acceptable independently of its conclusion.

Complex Question (aka. Loaded Question)

A question with underlined presumptions that demands a single reply which, if given, would imply admission of the presumptions.

"**Have you stopped stealing David Hume's ideas yet?**" (complex question).

Analysis: If you say "yes", the reply implies that you admit that you did steal Hume's ideas. If you say "no", you are still admitting that you are an idea-thief!!

Background: Adam wants to establish his suspicion that Bob has been unfaithful.
Adam: "**Have you terminated the affair?**" Bob: "Yes." Adam: "So, you now admit that you have been seeing someone else all these times." Bob: "I meant no." Adam: So, you are still seeing that person! Either way, you have been unfaithful."

Analysis: Bob's **replies** to Adam's complex question give Adam a way to construct an argument for his suspicion that Bob has been unfaithful.
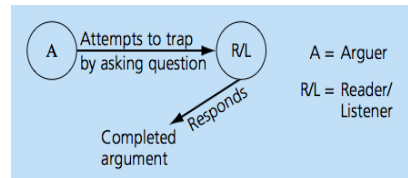Adam's argument can be put in Standard Form as follows:
P1.   Bob replied "Yes" to the question "Have you terminated the affair?".
P2.   Bob has had an affair. (inference from P1)
P3.   Bob replied "No" to the question "Have you terminated the affair?".
P4.   Bob is still having an affair. (inference from P3)
C.   Bob has been unfaithful. (from P2, or from P4)

Reporter: "**Senator, when did you first know that your son is dating a Mormon?**"
Senator: "You are assuming that my son is dating a Mormon, and that I knew about it".
Reporter: "Am I correct in making those assumptions?"
Senator: "I am not going to discuss private family matters. But I should say to all of you that in this country, everyone has the right to choose their friends, companions and religions, and we should respect that."

Notes:
- A complex question itself is not yet an argument.
- But a reply to a complex question can help the questioner construct an argument.

Why is it a fallacy?
A complex question (i.e., a question with unestablished presumptions) is fallacious simply because what it presumes is unestablished.

How to respond?
- You should point out the question's presumptions are unestablished.
- Should you further indicate whether the unestablished presumptions are actually true or false?
  If you do, you will be giving away new information to the questioner, which, depending on your circumstances, you may or may not want/need to do.

False Dichotomy (aka. False Alternative, False Dilemma)

Either option A or option B.
Option A should be rejected.

Option B should be accepted.

Example 1: It may well turn out that evolution is false. In that case, we should conclude that creationism is true.

Analysis: It is wrongly assumed here that there are only two possible theories of the origins of species. The *Hitchhiker's guide to the galaxy*, for example, provides an alternative thesis.

Example 2: As Australia's population ages and lives longer, we are faced with two clear choices. Either we ration health care, so that some people are treated while others have to wait, possibly until they die, for the treatment they need, or we don't reform the health care system at all. But if we do reform, the economy will collapse and be unable to support the number of demands made by the rapidly expanding health system. So we must ration health care.

Analysis: The puzzle here is to know just how many genuine options are available – just the two mentioned? or more? These are empirical questions which cannot be answered a priori just by appealing to logic. We need to consult experts on health care system reforms from different political orientations.
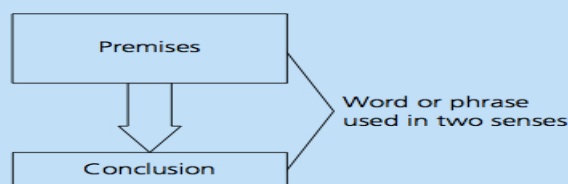
Notes:
- Two options (which do not really exhaust all the plausible options) are <u>normally</u> presented in an argument that commits the fallacy of False Dichotomy.
- The fallacy can be <u>extended</u> to cover arguments that give more than two options which still do not cover all the plausible ones. For example: "I can get a degree, or I can get a job, or I can do nothing. I can't get a degree or a job. So, I can only do nothing". An obvious alternative is ignored, namely: "you can become a volunteer and contribute to society." The argument commits False Dichotomy – or rather false "trichotomy" !

When is it a fallacy?
- An argument commits False Dichotomy only if it <u>falsely presumes</u> a set of limited options when in fact there are more.
- It can sometimes be hard to work out how many options are genuinely available. For in most cases, claims about options are <u>empirical</u> claims about the world.
- "A or not-A", however, is not an empirical claim. It is a logical truth instead - as it covers all logical possibilities. So, arguments of the form "A or not-A, A should be rejected, so not-A should be accepted" are <u>not</u> fallacious.

Part II. Fallacies of Ambiguity

Equivocation (aka. Word/Semantic Ambiguity)

P1. Whatever is **human** has a right to life.
P2   My appendix is **human**.

C.   My appendix has a right to life. (from P1 & P2)

Analysis: The word "human" is ambiguous, meaning either "human being" (as in P1) or "belonging to a human being" (as in P2).

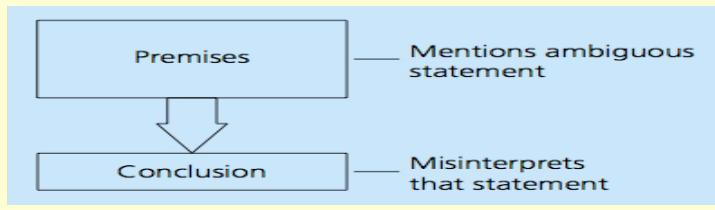P1. Reproduction is the **end** of life.
P2. The **end** of life is death.

C.   Reproduction is death. (from P1 & P2)

Analysis: The word "end" is ambiguous, meaning either "purpose" (as in P1) or "termination" (as in P2).

Why and how Equivocation is a fallacy?
- An argument commits the fallacy of Equivocation if (1) an <u>ambiguous word/phrase</u> is used in different places in the argument to mean different things,
  such that (2a) if the word/phrase is given the same meaning throughout the argument, then <u>at least one premise will be false</u> (or unacceptable),
  but (2b) if the word/phrase is given the different intended meanings to make all the premises true, then <u>the argument will become invalid</u> (or unsuccessful)
  So, either way, it is a bad argument.
- To reveal equivocation, we simply ensure that the word/phrase is used consistently (i.e., given the same meaning) throughout the argument. We will then see that at least one premise is false (or unacceptable).
- The first argument equivocates the word "human".
  If "human" means "human being" throughout the argument, then P2 is false. If "human" means "belonging to a human being" throughout the argument, then P1 is false.
  And if "human" is given the different intended meanings so as to make both P1 and P2 true, then the argument will become invalid. So, either way, it is a bad argument.
- A similar analysis can be given to the second argument:
  If the word "end" is given the same meaning throughout the argument, then at least one of the premises will be false.
  But if the word "end" is given the different intended meanings to make all the premises true, then the argument will become invalid. Either way, it is a bad argument.

Amphiboly (aka. Structural/Syntactic Ambiguity)

Premises — Mentions ambiguous statement

Conclusion — Misinterprets that statement

Mary said that she had a picture of a 7-feet-tall bear in her suit case. We must infer that Mary's suit case is big enough to contain a 7-feet-tall bear.

Analysis: **What is in the picture?** Either (a) a bear or (b) Mary's suit case containing a bear. **What is in the suit case?** Either (a) a picture of a bear or (b) the bear itself. Interpretation (a) is clearly much more plausible. But the arguer takes the much less plausible interpretation (b), and thereby commits the fallacy of Amphiboly.

P1. It is necessary that X happened if X happened.
P2. If X happened, it is necessary that X happened. (from P1)

C.   Everything that happened had to happen. (from P2)

Analysis: What is the **scope** of the phrase **"it is necessary that"** in P1 – i.e., what is said to be necessary?
- Either (a) the conditional statement "X happened if X happened" is said to be necessary or (b) the shorter statement "X happened" is said to be necessary.
- Under interpretation (a), P2 does not follow from P1 at all and so the argument is invalid. Under interpretation (b), P1 is question begging as it is equivalent to P2, which in turn rephrases C. So, either way, it is a bad argument.
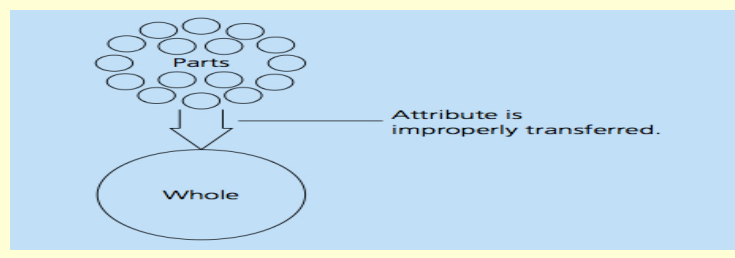
Notes:
- Groucho Marx made this joke in an old movie: "One morning I shot an elephant in my pyjamas. How he got into my pyjamas I'll never know!"
- The terms of the joke are not ambiguous. Rather, the grammatical structure of the sentence can be understood in 2 ways: (a) that Groucho was in his pyjamas when he did the shooting, or (b) that the elephant was in Groucho's pyjamas when shot.
- We often don't notice structural ambiguity: **"The bar staff were told to stop serving drinks at midnight"**. Were they told at midnight, or were they told earlier that midnight was the time to stop the drinks service?

When is it a fallacy?
- An argument commits the fallacy of Amphiboly if (1) it contains some structural ambiguity such that a phrase/sentence can be interpreted in more than one way, and (2) it takes the less plausible interpretation in order to make an inference.

Part III. Fallacies of Part-Whole Relations

Composition

Parts

Attribute is improperly transferred.

Whole

Each of my body cells is very light. So my body is very light.

Analysis: Since what is true of body cells is not true of the body in this case, the argument commits the fallacy of Composition.

No LTU staff or student owns ELTs. So, LTU doesn't own ELTs.

Analysis: The argument wrongly infers from the parts lacking a property to the whole lacking the same property. So it commits the fallacy of Composition.
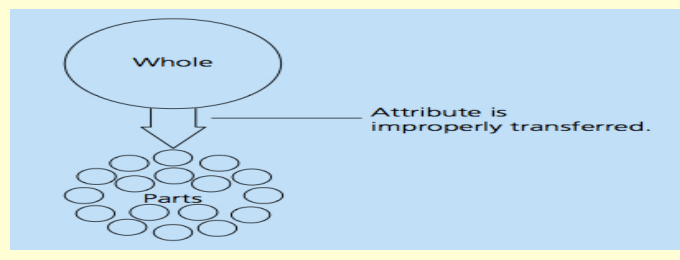
Every part of this chair is made of wood and not made of steel. So the whole chair is made of wood and not made of steel.

Analysis: No fallacy is committed – as the inference is successful.

When is it a fallacy?
- An argument commits the fallacy of Composition if it unsuccessfully infers from the claim that the parts of a certain thing have (or lack) some property to the rather different claim the whole thing itself has (or lacks) the same property.
- If an argument from a property of parts to the same property of the whole is plausible (i.e., successful), then it is not fallacious.
- Part-whole relations are often empirical relations, and different types of objects in the world have different part-whole relations with respect to different properties. To decide whether or not an argument from properties of parts to properties of the whole is plausible requires prior knowledge about the kind of thing and the property in question.
- For example: hydrogen atoms and oxygen atoms are rarely found in the atmosphere. But it would be implausible to infer that H_2O molecules are rarely found in the atmosphere. How do we know that? Via the empirical sciences, such as chemistry.

Division

Whole → Parts: Attribute is improperly transferred.

Vegetables are common. Artichokes are vegetables. So, artichokes are common. (from P1 & P2)

Analysis: What is true of a collection (the world total of vegetables in this case) is not true of its members. The argument commits the fallacy of Division.

The company of which Jim is a director cannot be sent to jail. So, Jim cannot be sent to jail.

Analysis: Again what is true of the whole here is not true of its individual members. The argument commits the fallacy of Division.

This pile of documents is lighter than 1 kg. So, every document is the pile is lighter than 1 kg.

Analysis: Here the inference from what is true of the whole to what is true of the parts is successful. The argument doesn't commit a fallacy.

When is it a fallacy?

- An argument commits the fallacy of Division if it unsuccessfully infers from the claim that a thing as a whole has (or lacks) some property to the rather different claim its parts have (or lack) the same property.

- If an argument from a property of the whole to the same property of the parts is plausible (i.e., successful), then it is not fallacious.

- As noted before, part-whole relations are often empirical relations. So, to decide whether or not an argument from the properties of a thing to the properties of its parts is plausible often requires prior knowledge about the kind of thing and the property in question.

- There are also cases where no amount of prior knowledge is enough to help us make reliable generalizations. For example: there are many orange pieces of cloth that are composed of threads none of which is itself orange. But equally, there are many orange pieces of cloths each thread in which is orange. In cases like this, our prior knowledge about the diversity of old/known cases tells us that we cannot make reliable generalizations about a new/unknown case. In such cases, if we proceed to make a generalization from the whole to the parts, we would be committing the fallacy of Division.

Summary

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(3) Part-Whole Relations
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- Division (i.e., unsuccessful inference from whole to part)

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