Philosophy 101

Philosophy &
Argument (II)

The Logic of
Argument

Interpreting
Arguments

Logical
Fallacies

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The Logic of Argument

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Kinds of Argument

Deductive Argument: the conclusion follows from the premises *necessarily*

Inductive Argument: the conclusion is made *probable* by the premises

Abductive Argument: the conclusion is the best explanation of the truth of the premises

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Characteristics of Deductive Argument

- Validity
- Soundness

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Validity

Valid Argument: An argument whose structure *guarantees* that, if the premises are true, the conclusion must also be true

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Form vs. Content

1. All humans are mortal
2. John is human
3. ∴ John is mortal

1. All A is B
2. x is A
3. ∴ x is B

- Whatever the content of this argument form, it will *always* be valid

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Soundness

Sound Argument: An argument which is (i) valid and (ii) has true
premises

- Whether an argument is sound concerns both its *form* and
  its *content*
- Not all valid arguments are sound arguments
- Not all arguments with true premises and a true conclusion
  are sound

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Two Basic Deductive Argument Forms

Modus ponens: "the affirming mode"

    1 If P, then Q

    2 P

    3 ∴ Q

1 If the chef is talented then dinner will be good

2 The chef is talented

3 ∴ Dinner will be good

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Two Basic Deductive Argument Forms

Modus tollens: "the denying mode"

1. If P, then Q
2. ~ Q
3. ∴ ~ P

1. If the chef is talented then dinner will be good
2. Dinner is not good
3. ∴ The chef is not talented

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Argument Markers

- Arguments are *constructed* from statements but they typically don't appear as lists of statements
- (Good) Arguments often contain "marker" words, which indicate what is evidence or conclusion

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Argument Markers

Sample Evidence Markers

- as
- because
- for
- from
- since

The streets are wet *because* it is raining

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Argument Markers

Sample Conclusion Markers

- hence
- so
- then
- therefore
- thus

It is raining, *therefore* the streets are wet

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Argument Extraction

- Is there an argument being made?
- What's the conclusion of the argument?
- What support does the conclusion have?
- What material is essential to the argument and what is extraneous?
- Is the argument valid?
- Is the argument sound?

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Argument Extraction

There is no reason to think that there are any absolute moral truths. We can see this when we consider different cultural outlooks concerning what is morally required. For example, indigenous Inuit culture considered infanticide to be morally permissible in some situations. But modern American culture clearly thinks infanticide is always morally wrong. So what's morally right or wrong is just a matter of opinion, which can vary from culture to culture. (James Rachels, The Elements of Moral Theory*)*

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Argument Extraction

- What's the conclusion?
  - There are no absolute moral truths

- What is the support for the conclusion?
  - If moral truths were absolute then they would not vary from culture to culture
  - What's considered morally right or wrong does vary from culture to culture

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Argument Extraction

1. If moral truths were absolute then they would not vary from culture to culture
2. What's considered morally right or wrong does vary from culture to culture
3. ∴ There are no absolute moral truths

1. If P, then Q
2. ~ Q
3. ∴ ~ P

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Argument Extraction

There are, moreover, seemingly unanswerable arguments that, if they are correct, demonstrate that the existence of moral responsibility entails the existence of free will, and, therefore, if free will does not exist, moral responsibility does not exist either. It is, however, evident that moral responsibility does exist: if there were no such thing as moral responsibility nothing would be anyone's fault, and it is evident that there are states of affairs to which one can point and say, correctly, to certain people: That's your fault. (van Inwagen "How to Think")

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Argument Extraction

1. If there were no such thing as moral responsibility, then no one would be at fault for anything

2. But people do correctly fault others for performing certain kinds of actions

3. ∴ There must be moral responsibility

4. If there were no free will, then there would be no moral responsibility

5. There is moral responsibility (from 3)

6. ∴ There is free will

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Argument Extraction

1. If A, then B
2. ~B
3. ∴ ~A (by 1, 2, modus tollens)

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Logical Fallacies

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Logical fallacy: A defect in the logical form or content of an
argument

- There are some standard pattens of bad argument
- Some bad argument forms nevertheless may initially
  appear to be good arguments

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Common Fallacies

Formal Fallacies:

Denying the Antecedent: denying the consequent of a
hypothetical by denying the antecedent

> 1 If P, then Q
> 2 ~ P
> 3 ∴ ~ Q

1 If the dog is outside, then he is barking
2 The dog is not outside
3 ∴ The dog is not barking

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Common Fallacies

Formal Fallacies:

Affirming the Consequent: Accepting the antecedent of a hypothetical by accepting the consequent

1. If P, then Q
2. Q
3. ∴ P

1. If the dog is outside, then he is barking
2. The dog is barking
3. ∴ The dog is outside

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Common Fallacies

Informal Fallacies:

Straw Man: Purposely misrepresenting a view so that it can be more easily attacked or criticized

Mary: We must not betray the principles of justice and democracy. Suspected terrorists must be granted basic rights as well as legal representation and access to a fair court.

Tom: Mary is advocating the release of known terrorists. We cannot afford to allow our enemies to move freely in our society.

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Common Fallacies

Informal Fallacies:

Genetic Fallacy: Accepting or rejecting a statement or
argument on the basis of its source

*The US Senate is considering various proposals to
reduce social inequality. But anything they come up
with will be ridiculous because they are all rich white
people.*

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Informal Fallacies:

Appeal to the Person (*ad hominem*): Rejecting a statement or
argument because it comes from a particular
person or group, rather than because the
statement or argument is false or dubious

*President Obama says that the United States health
care system is in need of serious reform, and should be
changed so that more people can affordably receive
adequate coverage. This is ridiculous, and only a
socialist like Obama would be silly enough to believe
it.*

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Common Fallacies

Informal Fallacies:

Begging the Question: Attempting to prove the truth of a
statement by using that very statement as
evidence

*We know that God exists because the bible says so,
and everything the bible says is true because God
wrote it.*