

LOGIC FOR METAPHYSICS

Full Speed Ahead

I know the point of this assignment is to relay back sections of the text I personally found confusing or unconvincing, as to provide you with some fodder for classroom discussions. But having already suffered through an entire semester of symbolic logic, none of it is confusing or unconvincing. —Robert Huffmanm

General Bewilderment

I will need much more reading in practice to use those symbols for arguments, it was just a LOT to take in.

—Ariel Ortega

Why are we doing this?

Why does metaphysics in particular supposedly benefit from formal logic, as no other philosophy class ive taken required such a (30 pg) review of logic. The most they've had is an aside on syllogisms. —Shah Rahman

Question

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First Answer

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But all philosophy requires abstract reasoning!

True. But especially in 20th-century analytic philosophy (and especially in metaphysics), logic became a standard philosophical tool.

So in order to read that stuff, we need a passing familiarity with logic.

Question

Why are we studying logic in a metaphysics course?

Second Answer

Many philosophers have sought to investigate the structure of reality by investigating the structure of our representations of reality.

Logic is, in part, the study of the structure of our systems for representing reality.

Question

Why are we studying logic in a metaphysics course?

Third Answer

When we start thinking seriously about logic, we quickly wind up doing metaphysics.

A syllogism (specifically, Barbara)

1. All X are Y All humans are mortals
2. All Y are Z All mortals are things that will die
therefore,
3. All Z are Z All humans are things that will die

Modus Ponens

1. $P \supset Q$ If Sally is human, then she is mortal.
2. P Sally is human.
therefore,
3. Q Sally is mortal.

Existential Instantiation

1. Ma Abe is a mortal.
therefore,
2. $\exists xMx$ There exists something that is mortal.

Deductively Valid

An argument is deductively valid when there is no possible way for the premises of the argument to all be true while its conclusion is false. The premises of the argument logically imply its conclusion.

Deductively Invalid

An argument is deductively invalid when it is possible for the premises of the argument to all be true while its conclusion is false.

What's the difference between validity and soundness?

...when i was doing this the area that tripped me up the most, other than ridiculously long proofs, were trying to understand the differences between validity and soundness. —Robert Huffman

I am still struggling with validity and soundness of an argument. I understand that an argument can be valid but not sound but is it possible that an argument is sound but not valid? Are there any similarities & differences between an invalid and unsound argument.
—Syeda Maryam Kazmi

How to tell if an argument is valid?

As someone who's never taken a metaphysics course before, what I found the most confusing is understanding and differentiating valid and invalid arguments. [...] I became more confused as the textbook then stated that there can be invalid arguments with all true premises and a true conclusion and valid arguments with all false premises and a false conclusion as validity is the logical connection of premises and conclusion. (Confusing!)

—Chelsea Alejandro

How to tell if an argument is valid?

What I found intellectually unsatisfying was on finding the validity of arguments. ...is it just that we have to match an argument to one of those few known forms of valid arguments and then consider it valid from there? Is there a way that we can test for validity, or any other possible valid forms that are not listed in the book?

—Ariel Ortega

A tricky question about validity

I was intrigued by the example in exercise 0.2:....

EXERCISE 0.2

Testing Arguments for Validity

Are the following arguments valid or invalid?

- D. All birds can fly. Penguins are birds. But penguins cannot fly.
Therefore some birds can't fly.

—Miriam Jallander

The Principle of Charity

The argument from design (2), the problem of evil (2), and the cosmological argument (10) are related to the Bible, and many philosophers argue about them. If one thinks about arguments in metaphysics, one needs to think of them logically and mathematically because metaphysics is a part of philosophy to seek the truth. The principle of charity (11) is the way to understand someone's theory because we need to stand in the same place to discuss something. One needs to believe his or her theory is valid. However, is that attitude contradict to know the truth? —Misa Sukegawa

Enthymemes

I have not encountered the notion of enthymemes and the principle of charity in the logic class I've previously taken. I am a bit confused by the lack of explanation of 'intention' regarding the principle of charity at the beginning of page 13. By the logic of the author, would the posed argument against abortion be valid if points 2.5 and 3.5 were further elaborated? Say, why murder is wrong and how a fetus is a person? —Ksenia Van Ness

What are the missing links that will give us a valid argument from the premises to the conclusion? How about this:

Argument against Abortion

1. Anytime one ends the life of a person, it is murder.
2. Abortion ends the life of a fetus.
*2.5 A fetus is a person. (fixes the validity of Inference 1)
3. So, abortion is murder.
*3.5 Murder is wrong. (fixes the validity of Inference 2)

Therefore,

4. Abortion is wrong.

We are allowed, indeed compelled by the principle of charity, to supply the author with premises (2.5) and (3.5) only because it is obvious that these are claims the author intended. This is why we say her original argument is an enthymeme. It is invalid as stated, but it can easily be made into a valid argument by supplying premises that are obvious she intended, and may only have left out because they were so obvious to her.

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Enthymemes

In Exercise 0.5, Supply The Missing Premises, I am confused as to what the missing premise would be in the tentative arguments given. The previous example given before this particular exercise, the abortion argument, states the need to use supplementary inferences which could be assumed by the author and I understand that... but I cannot figure out the missing premises for the example. —Meagan O'Connell

EXERCISE 0.5

Supplying Missing Premises

Some call the ancient Greek philosopher Thales (624 BC–c. 546 BC) the first philosopher. Thales is famous for arguing that everything is water. Consider the following texts containing arguments against Thales's thesis. Provide the missing premises that will make the arguments valid.

- A. There is no water on Saturn. Therefore, not everything is water.
- B. There were things that existed in the first seconds immediately after the Big Bang. Water did not come into being until hundreds of thousands of years after the Big Bang. So, not everything is water.

Enthymemes

Besides the concern about soundness, we can often see some questions or concerns as to validity just as being introduced in the reading like the enthymeme or fallacies. For instance, from the reading, what is the relation between the "designer" and God? Is God the name of the designer? What is the definition of xxx? —Chateldon Nabeshma

The Argument from Design

1. The complexity and organization of the universe shows that it must have been designed.
2. But there cannot be something designed without there being a designer.
3. So, the universe must have a designer.

Therefore,

4. God exists.

Skepticism about the value of formal logic

I find the effectiveness of formal symbology unconvincing. Statements are much clearer without them. Translating 'Professor Plum murdered Mr. Body in the kitchen using the candle-stick.' to 'Mpbkc' sacrifices a lot of clarity and seems useful only when trying to save space, which is already less important than clarity.

—Shah Rahman

The idea of wanting to simplify something complex makes sense to me, but I find it challenging from the perspective that it's making something already complex even more complex. —Brendan Forde

Predicate logic is confusing!

...even though I have taken logic before, I kind of got lost after existential quantifiers were introduced. When the premises were abbreviated, I felt like I was reading a foreign language or a computer code. I understand it is another way to organize the truth values of the premises to see if it is a valid or invalid statement, but it is hard to sort out when it is abbreviated to symbols and variables.

—Raima Zaman

Predicate logic is confusing!

All of the knowledge was pretty straight forward and easy to understand up to the first order predicate logic. I was understanding the breakdown of arguments, that arguments consist of premises and a conclusion and what makes an argument valid and what makes one sound. Everything was going good for me until the idea of philosophers using different forms of logic to express such arguments was brought up. —Brendan Forde

I found Ney's discussion of translating arguments from sentences in the English language into something that can be represented using symbolic logic confusing. [...] I'm also having trouble understanding the method of translating complicated sentences into symbolic logic. —Aanisah Sheriff

Issues about predicate logic

I don't understand why the existential qualifier goes before the predicate when the subject is an imprecise noun like "somebody" or "there," as Ney explains on pg. 20.

Somebody is tall.

This will be symbolized as:

$\exists xTx.$

—Aanisah Sheriff

Issues about predicate logic

I find Ney's baby eagle example and cats and dogs example particularly hard to comprehend, as she discusses on pg. 21. I don't understand why the reasoning behind where the parentheses are placed and why there are two parentheses after the existential qualifier.

Some cats love some dogs.

This sentence has two quantifier phrases. It says both that *there exists some x* such that x is a cat, but also that *there exists some y* such that y is a dog, and that the cat (the x) loves the dog (the y). So that we do not confuse which variable is referring to the cat and which the dog, we will use distinct variables x and y in the symbolization of this sentence:

$$\exists x \exists y ((Cx \wedge Dy) \wedge Lxy),$$

which we may read back into English as, "There exists an x and there exists a y such that x is a cat and y is a dog, and the x loves the y."

—Aanisah Sheriff

Issues about predicate logic

I got stuck at the representation of the universal principle, Presentism, written as "Only present objects exist." I spent some time thinking about it and wondered why there had to be both an x and y variable instead of just x . I didn't understand the function of having the subset ($x=y$). However, my thoughts are that it has to do with the statement being phrased as "only" present objects exist, and not "Present objects exist." One of my methods of sorting this out is by modifying the universal principle to see how the representations might be rewritten. Maybe by the time class starts, I'll understand why... —Cynthia Huang

Nominalism: Everything is concrete.

$\forall x Cx$

Idealism: Everything is an idea in a mind.

$\forall x Ix$

Presentism: Only present objects exist.

$\forall x (\neg Px \supset \neg \exists y (x=y))$

Actualism: Everything is actual.

$\forall x Ax$

Vacuous universal claims

Ney discusses the differences between “universally quantified” “existentially quantified” sentences (26). Ney says that the sentence “All electrons are negatively charged” doesn’t actually prove that electrons exist (26). However, if electrons did exist, they would be negatively charged. My confusion lies in the fact that if electrons might not exist, then how can we be certain of its properties. —Aanisah Sheriff

This Logic isn't Complicated Enough!

In the section "Criticizing arguments", Ney discusses two ways to criticize an argument "challenge one of the argument's premises" or "challenge the validity of the argument". When it comes to challenging the premises, she discusses cases where we reject or criticize one of the premises.

There are other cases I would like to consider. I might think a premise is anywhere in a range of: true, not necessary, likely, probable, possible, not necessarily false, or false. If I critique an argument by merely showing that one of its premises is not necessarily true, how Philosophical significant is that? What if I was in the following situation. There is an argument with many premises. Each premise is likely to be true on its own. However, there are so many of them that at least one of them is probably false. I do believe this is a valid critique to be made, but I don't know if / how it fits in with her ways of critique. Are her ways to criticize merely examples? Or do they represent the full extent of what "criticizing an argument" is, and I would need another phrase "weakening an argument" for the case I mentioned.

—Miriam Jallander

Let's get started with the metaphysics already!

I fail to see how we can say neither Pegasus nor Santa do not exist. While they are not materially real, like our classroom desk, there are things we can say about their character and we could distinguish one from the other. Both have a history and when spoken of can be seen with the mind's eye. While unsatisfying, would it not be more accurate to classify levels of existence and fit both Pegasus and Santa into their proper level.

—Matthew Parisi