

Lecture 12 – Critical Thinking

1. What is critical thinking?

When we try to defend or argue against a view, there's always a chance that our reasoning is being affected by cognitive biases, our moods, our preferences or maybe just by lack of experience. Critical thinking is a skill that can help counter these effects.

Knowing how to think critically is a fundamental skill you need to do philosophy well, but it's also a skill that definitely has its use beyond the walls of academia, to say the least. Critical thinking is not only achieved thanks to the ability to produce sound arguments, but also thanks to the ability to spot and avoid faulty reasoning. Thus, the ability to think critically gathers both a set of positive skills, i.e. knowing how to produce good arguments, and a set of negative skills, i.e. knowing to avoid bad arguments and reasoning mistakes. Below you can find a non-exhaustive list of common informal and formal fallacies as well as a classification of arguments and a list of notions fundamental to knowing how to think critically.

2. Informal fallacies

Informal fallacies are fallacies that do not rule out the validity of an argument but that render one's argument deeply unconvincing.

Ad hominem

An 'argument' said *ad hominem* is an argument that targets your interlocutor rather than their thesis, in a way which is irrelevant to the consistency or validity of their argument. For example, claiming against your interlocutor's view on the existence of time is probably invalid because they vote for right wing parties is a claim *ad hominem*.

Ad hoc

A move or clause is *ad hoc* when you come up with a supplementary claim with the sole purpose of fixing your view. For example, you try to defend a view about responsibility which is supposed to hold about all intuitive cases of responsibility. When you realize that it fails to cover some important cases, call them X-cases, you modify your view by adding on a clause that excludes X-cases from your view. The move you make here is *ad hoc*.

False dichotomy

To create a false dichotomy (also called sometimes ‘false choice’) is to offer an incomplete set of alternatives in order to make your point. For example, claiming that all people divide into people who love cats and people who love dogs is to create a false dichotomy.

Question begging

To beg the question in an argument is to presuppose the truth of claim are trying to prove, i.e. your conclusion, in your premises. Assuming the truth of the point of you are trying to defend renders your argument unconvincing. Here is an example of question begging. You want to show that eating meat is morally wrong and your argument starts out with the premise that we have a duty not to eat meat.

Straw man

We call ‘straw man’ argumentative moves that either depicts your opponent’s view in an inaccurate way (you misrepresent it or caricature it) or creates an entirely inexistent and often implausible view. When you argue against a straw man you risk rendering your argument weaker than it could actually be because it targets the wrong claims, and often claims that absolutely no one embraces. For example, if I build a research project that seeks to disprove the view according to which fruit flies spontaneously burst into existence, out of nowhere, I am most definitely setting up my research against a straw man.

Post hoc ergo propter hoc

Literally, ‘after this therefore because of this’ in Latin. To commit this fallacy is to conclude from the fact that B happened after A, that A is the cause of B. For example, concluding that because my dishwasher broke after my new roommate moved in, my roommate broke the dishwasher.

Genetic fallacy

To commit a genetic fallacy is to assume that because D originated from C, C and D necessarily share features. For example, if I assume that the philosopher Galen Strawson is a compatibilist because his father, the philosopher Peter Strawson is a compatibilist, I commit a genetic fallacy. I also commit a genetic fallacy if my only argument in favor of the claim that *Harry Potter* is a useless book because its author has made offensive claims on Twitter.

(Faulty) generalization

We generalize fallaciously when we make a statement about *all* Es possessing a certain feature on the basis of only observing that *some* Es possess this feature. For example, I generalize fallaciously about Swiss people if on the basis of talking to my three Swiss friends who love cheese fondue, I conclude that all Swiss people love cheese fondue.

Slippery slope argument

A slippery slope argument claims that committing to a certain position or to a certain view makes it highly probable and maybe even unavoidable that you will have to commit to other undesirable positions or views. To speak metaphorically, a slippery slope argument assumes that one step in the general direction of view F unavoidably leads you to slip all the way down to endorsing view F. For example, let's say Jones defends the view according to which soft drugs should be legalized and Black retorts with no further argumentation that Jones should give up their view because this commits Jones to defending that hard drugs should be legalized, Black's argument is a slippery slope argument.

3. Formal fallacies

Formal fallacies are fallacies that rule out the validity of an argument. See validity below.

Non sequitur

Literally, 'it does not follow' in Latin. When a claim is said to be *non sequitur* it means that it does not follow from what you have said previously. For example, if I say "E.L. James has sold hundreds of millions of books, therefore she is a great writer", my conclusion is a *non sequitur* and I am using "therefore" inappropriately.

Affirming the consequent

Consider the following argument.

If p, then q

q

therefore, p.

This is not a valid argument, because the conclusion does not follow from its premises. For example, the argument

If I have a flat tire, then I cannot ride my bike.

I cannot ride my bike.

Therefore, I have a flat tire

is not valid because it does not follow from the premise that 'If I have a flat tire, then I cannot ride my bike' and from the fact that I cannot ride my bike anymore that I have a flat tire. There are many other reasons why I cannot ride my bike, it could have been stolen, I could have broken my arm, etc.

Denying the antecedent

Consider the following argument.

If p, then q

Not p

Therefore not q

This is not a valid argument, because the conclusion does not follow from its premises. For example, the argument

If I have a flat tire, then I cannot ride my bike.

I haven't got a flat tire.

Therefore, I can ride my bike.

is not valid either, because it does not follow from the premise "If I have a flat tire, then I cannot ride my bike" and the fact that I haven't got a flat tire that I can ride my bike. Once again, there might be other reasons why I cannot ride my bike. Another way to put it is to say that it is possible for me not to be able to ride my bike despite the fact that I haven't got a flat tire.

Both of the above formal fallacies are forms of *non-sequiturs*.

4. Important notions and principles

Premise

Premises are the suppositions we make in argument that are meant to lead to a certain conclusion. The premises of an argument come under scrutiny when we try to establish whether the argument in question is valid or sound.

Conclusion

The conclusion of an argument is the claim that one is trying to defend when presenting an argument. The conclusion is supposed to follow from a set of considerations that supports it, a.k.a premises.

Argument

An argument is a set of premises meant to support a conclusion. There are many forms of arguments: most importantly deductive and inductive, amongst others. In a deductive argument, the true premises guarantee a true conclusion. In an inductive argument, the premises do not guarantee the truth of the conclusion but give us good reasons to suspect that the conclusion is true, on the basis of an observation for example. An argument can be valid, invalid or sound, unsound.

Validity

An argument is said to be valid if it is truth-preserving, that is, if the premises of the argument are true and the argument is valid, then the conclusion is true. Note that some arguments can be valid yet informally fallacious (see for example question begging above).

Soundness

An argument is sound, if it is valid and if its premises and conclusion are true.

Circularity

Arguments can be circular. In a circular argument, the plausibility or truth of a premise depends on the plausibility or truth of the conclusion and vice versa. For example, I claim that my grandmother gave me a watch because I'm her favorite grandchild. You ask me why I reach such a conclusion. I reply: "because my grand-mother gave me a watch". My argument is circular. Arguments that beg the question for example are circular (see above).

Refutation

To refute an argument is to demonstrate that it is invalid or unsound, by offering evidence or a counter argument.

Ambiguity vs. Vagueness

A word or a phrase is ambiguous when it has more than one meaning. A word, phrase, or concept is vague when it is not precise. Vagueness is context dependent because the lack of precision of a word depends on the context in which it is used. For example, if I say, “let’s meet at the tower” and we live in a village that only has one tower, I’m giving you a precise instruction. But, if we live in a city that has many towers, my instruction is rather vague. This does not mean that the term “tower” is ambiguous.

Principle of charity

When arguing against each other, ideally, we try to apply the principle of charity. Applying the principle of charity consists in assuming that your interlocutor is rational and doing their best and interpreting their statements accordingly.

5. Further resources/references

Books

Heinrichs, Jay. 2008. *Thank You for Arguing*. Crown Publishing Group.

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Hansen, Hans, “Fallacies”, *The Stanford Encyclopedia of Philosophy* (Summer 2020 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/sum2020/entries/fallacies/>>.

Hitchcock, David, “Critical Thinking”, *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/fall2018/entries/critical-thinking/>>.

Pynn Geoff, et al., “Introduction to critical thinking: playlist”. *Wireless Philosophy*. URL = https://www.youtube.com/playlist?list=PLtKNX4SfKpzX_bhh4LOEWEGy3pkLmFDmk.