Fallacy February (notes)

Notes of: <https://www.youtube.com/watch?v=Ieb4nykMg40>

Video 1: Fallacy February

Fallacy: a defect in an argument that consists in something other than false premises alone.

Video 2: affirming the consequent

Affirming the consequent: using the conclusion of an implication to conclude the antecedent: (P=>Q)=>(Q=>P) it does not work as when P is true Q is true this doesn’t limit P to being true when Q is true. E.g.

* If it is raining then I will have my umbrella.
* I have my umbrella
* Conclusion: it is raining

-- Of course, this is wrong. I may take my umbrella to work when it isn’t raining --



* If we build the house with brick it will be stable
* The house is stable
* Conclusion: we built it with brick

-- Of course, this is wrong. The house may be stable with wood or concrete --



* If Miracle sees thomas on the way to work she will be happy
* Miracle is happy
* Conclusion: she saw thomas on the way to work

-- Of course, this is wrong. She may be happy for another reason --

Video 3: denying the antecedent

Denying the antecedent: using the denial of the antecedent to conclude the denial of the conclusion: (P=>Q)=>(~P=>~Q) it does not work as Q isn’t false when P is false, Q is true, when P is true. E.g.



* If it is raining then I will have my umbrella
* It is not raining
* Conclusion: I do not have my umbrella

-- it is possible that I take my umbrella even though it is raining --



* If we build the house with brick it will be stable
* We did not build the house with brick
* Conclusion: therefore the house is unstable

-- it is possible that we build the house with steel --

Note: I find it really interesting that when I learned “if and only if” refers to identity, but now I think I get why this is a reasonable way to semantically call it: if and only if the house is built with brick the house will be stable.

* If miracle sees thomas on the way to work she will be happy
* Miracle did not see thomas on the way to work
* Conclusion: Miracle is not happy

-- Miracle may be happy for some other reason --

Video 4: Appeal to force

Appeal to force: Also known as Argumentum ad Baculum and Appeal to the stick. Using the threat of force to make someone accept your position.

Video 5: Appeal to pity

Appeal to pity: also known as Argumentum ad Misericordiam. Using feelings of sympathy or pity to make someone accept your position

Video 6: Appeal to the people

Appeal to the people: also known as Argumentum ad Populum. Using someone’s desire for love, esteem, acceptance, admiration, or recognition to make them accept your position (commonly used in advertising)

Video 7: Ad hominem

Ad hominem: argument against the person. Avoiding attacking another person’s argument in favour of attacking the person themselves. This fallacy comes in 3 versions:

1. Abusive

* You are a licentious, dissolute excuse for a human being
* Conclusion: your argument that the earth is round is garbage

1. Circumstantial

* You claim that everyone should have access to free healthcare
* But this would mean that you would get free healthcare yourself
* Conclusion: we should not have free healthcare

1. Tu quoque

* You claim that pot should be illegal
* But you smoked pot as a kid
* Conclusion: put should be legal

Video 8: Fallacy of accident

Fallacy of accident: attempting to use a rule to cover a specific case that is an exception to the rule (applying a general rule to a case that it does not apply to). It is the opposite of hasty generalization. E.g.



* The first amendment allows for you to say anything
* Conclusion: you can yell “fire” in a crowded theatre

-- note that there does exist an specific rule saying that one must not yell “fire” in a crowded theatre --



* Property should always be returned to its rightful owner.
* Conclusion: you should give the angry frat boy that is threatening another frat boy his knife back

-- this does not apply as there exists another specific rule saying that personal property may not be returned to its rightful owner if it is used in a malicious harm to others (I am pretty sure that this is not what the actual law says, but it does contain the core point I am trying to make) --



* In english “i” always comes before “e”.
* Conclusion: receive should be spelled r-e-c-i-e-v-e

-- this is an exception of the rule --

Video 9: Straw man

Straw man: distorting an opponent’s argument for the purpose of making it easier to object to. Misrepresenting an opponent’s argument to make it weaker (not upholding the principle of charity).

Principle of charity: The principle of charity suggests we should try to understand ideas before criticising them. Arguments should aim at finding the truth, not winning the fight. This means we should be charitable to people we're in conversation with by trying to find as much sense in their thinking as we can.

Video 10: Missing the point

Missing the point: also known as Ignoratio Elenchi. An argument entails one conclusion, but the arguer claims to entail another (drawing the incorrect conclusion).

Video 11: Red herring

Red herring: cleverly missing the point to draw attention away from the argument (distracting the reader or listener from the argument).

Video 12: Appeal to unqualified authority

Appeal to unqualified authority: deferring to the expertise of someone that is biased or unqualified to provide information

Video 13: Appeal to ignorance

Appeal to ignorance: also known as Argumentum ad Ignorantiam. Claiming that simply because something has not yet been proven it is not the case or claiming that simply because something has not yet been disproven that it is the case.

Video 14: Hasty generalization

Hasty generalization: using an unrepresentative sample to conclude a general rule (taking a small or non random sample to make conclusions about a population)

Video 15: False cause

False cause: correlation does not imply causation. Assuming a causal link simply based on the constant conjunction of two events. There exist 4 different types of this fallacy. E.g.

1. Post hoc ergo propter hoc

* Whenever I wear my hat backwards the seahawks win
* Conclusion: wearing my hat backwards will make the seahawks win

1. Non causa pro causa

* People who smoke are more likely to have lung cancer
* Conclusion: having lung cancer makes you more likely to smoke

1. Oversimplified cause

* A greater percentage of people are non-religious than ever before
* Conclusion: this is because there has been so much corruption in the catholic church

1. Gambler’s fallacy

* Every hand I have been dealt in this poker game has been terrible
* Conclusion: my next hand is more likely to be great

Video 16: Slippery slope fallacy

Slippery slope fallacy: the conclusion of an argument rests on a shaky and unlikely chain of events. E.g.

* You say that we should allow gay marriage
* If we allow gays to marry then soon we will have to let people marry animals
* Conclusion: we should not let gays marry

Video 17: Weak analogy

Weak analogy: When an analogy is not strong enough to support a conclusion. It usually follows the order: 1) object x has properties a,b,c. 2) object y has properties a,b. 3) Conclusion: object y has property c as well.

Video 18: Begging the question

Begging the question: also known as Petitio Principii. This comes in 3 forms: 1) leaving out a shaky key premise. 2) conclusion of the argument restates the original premise. 3) conclusion is based on a chain of inferences with the conclusion as the first premise. These are often valid but fallacious. E.g.

1. Leaving out a shaky key premise

* Murder is wrong
* Conclusion: abortion is wrong too

-- the second premise: abortion is murder, is missing --

1. Conclusion of the argument restates the original premise

* If someone could not see the future then they would not be standing on the street corner claiming that the world is about to end
* Conclusion: someone standing on the street corner claiming that the world is about to end can see the future

1. Conclusion is based on a chain of inferences with the conclusion as the first premise

* Nike makes the best shoes in the world
* The company that makes the best shoes in the world can pay its employees more
* Companies that pay their employees well can hire the best people
* The best people will make the best shoes
* Conclusion: nike makes the best shoes in the world

Video 19: Complex question

Complex question: two or more questions are asked, but they are disguised as one. No matter what you answer to the second question you will be forced to have the same answer to the first.

Video 20: False dichotomy

False dichotomy: also known as False bifurcation or the Either-Or fallacy. Claiming that there are only two options when in fact there are more.

Video 21: Suppressed evidence:

Suppressed evidence: ignoring an important piece of evidence that outweighs the other evidence. This is used a lot when someone takes a quote out of context.

Video 22: Equivocation

Equivocation: a fallacy depending on the double meaning of a word: an argument that uses one word to mean two different things, or mistakenly equating two different meanings of one word.

Video 23: Amphiboly

Amphiboly: when an argument is ambiguous between two different interpretations, or when an arguer misinterprets an ambiguous claim.

Video 24: Fallacy of composition

Fallacy of composition: simply because parts have a certain property does not mean that the whole does. E.g.



* All of the atoms in my body are invisible to the naked eye
* Conclusion: I am invisible

Video 25: Fallacy of division

Fallacy of division: the opposite of the fallacy of composition: if the whole has a property then the parts do too.

Note that from now on we will be looking at categorical logic fallacies

Video 26: Illicit conversion

Illicit conversion: we cannot perform conversion to A and O:

All S are P != All P are S

Some S are not P != Some P are not S

Video 27: Illicit contraposition

Illicit contraposition: contraposition only for A and O:

No S are P != No non-P are non-S

Some S are P != Some non-P are non-S

Video 28: Existential fallacy (Boole)

Existential fallacy (Boole): All horses are mammals => Some horses are mammals (Boole does not allow that, as it assumes that horses even exist). No fish are razor blades => Some fish are not razor blades (Boole doesn’t allow this either, as it assumes that fish even exist).

Video 29: Existential fallacy (Aristotle)

Existential fallacy (Aristotle): we can perform what boole can’t: All horses are mammals => Some horses are mammals and No fish are razor blades => Some fish are not razor blades, since we do not have a strict premise that horses don’t exist or that fish don’t exist, this is right. In the special case when horses don’t exist and fish don’t either, these would be invalid, and such a conclusion would be fallacious through the existential fallacy of Aristotle.

Video 30: Illicit contrary

Contrary: at least one of the statements is false. They cannot both be true: (∀x)((Px=>~Qx)^(Qx=>~Px)^(PxvQx))

(I think this notation is quite pretty, I might stick with it)

Illicit contrary: E and A statements are contrary, but they could both be false. Illicit contrary is when: (~E=>A)v(~A=>E).

Video 31: Illicit subcontrary

Illicit subcontrary: It is fallacious to go from ((Some S are not P)=>(It is not the case that some S are P)v(some S are P))v((Some S are P)=>((It is not the case that some S are not P)v(some S are not P))).

Video 32: Illicit subalternation

Illicit subalternation: (A=>I) (This is true, since truth flows down), but I!=>A (some S are P does not imply all S are P). Similarly, (E=> O) is true, but O!=>E.

Video 33: Undistributed middle

Undistributed middle: when a categorical syllogism breaks rule 1: the middle term must be distributed at least once.

Video 34: Illicit major and minor

Illicit major and minor: when a categorical syllogism breaks rule 2: any terms distributed in the conclusion must be distributed in the premises.

Video 35: Exclusive premises

Exclusive premises: when a categorical syllogism breaks rule 3: at least one premise must be affirmative.

Video 36: Affirmative from negative

Affirmative from negative: when a categorical syllogism breaks rule 4: a negative conclusion requires a negative premise.

Video 37: Existential fallacy

Existential fallacy: when a categorical syllogism breaks rule 5: if both premises are universal the conclusion cannot be particular.