Logical Fallacies, Long Lost Art of Rhetoric I Cheat Sheet

by Jorge Juan (jorgejuan007) via cheatography.com/35958/cs/11445/

Definition

Fallacy is the use of invalid or faulty reasoning

Some fallacies are committed intentionally to manipulate or persuade by deception, while others are committed unintentionally due to carelessness or ignorance

Aristotle was the first to systematize logical errors into a list, as being able to refute an opponent's thesis is one way of winning an argument

Richard Whately defines a fallacy broadly as, "any argument, or apparent argument, which professes to be decisive of the matter at hand, while in reality it is not"

https://en.wikipedia.org/wiki/List_of_fallacies

The first principle is that you must not fool yourself and you are the easiest person to fool , **Richard P. Feynman**

Types of Fallacies

Formal	*An error in logic in the argument's form.* Non Sequiturs
	Propositional fallacies
	Quantification fallacies
	Syllogistic fallacies
Informal	*Reasons other than structural, require examination of the argument's content*
	Faulty generalizations
	Red herring fallacies
Conditional or questionable	*Arguments disregard or confusion*

Other systems of classification

The most famous are those of Francis Bacon and J. S. Mill

Bacon divided fallacies into 4 Idola (Idols, False Appearances), summarize the kinds of mistakes the human intellect is prone.

Offendicula of Roger Bacon

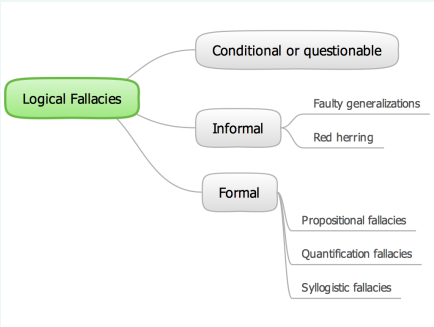
Opus maius,J. S. Mill book of his Logic,

Jeremy Bentham's Book of Fallacies (1824).

Whateley's Logic, A. de Morgan, Formal Logic (1847)

Sidgwick, Fallacies (1883)

Mindmap



Formal fallacies

Appeal to probability	Takes something for granted because it would probably be fore, something will go wrong (invalid conc
Argument from fallacy	Aka fallacy fallacy, assumes that if an argument is fallaciou lacious argument. Therefore, Q is false

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Formal fallacies (cont)

Base rate fallacy	Making a probability judgment based on conditional probabilities, without taking into account the effect of prior probabilities satisfying multi t probab ility is about 0.02. To find the correct answer, one should use Bayes' theorem

Formal fallacies (cont)

Conjunction fallacy	Assumption that an effect of prior probabilities satisfying multi , of two events occurring together is alway
Masked-man fallacy	Substitution of identical designators in a true statement can

Propositional fallacies

A propositional fallacy is an error in logic that concerns compound prop

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Formal fallacies (cont)

Affirming a disjunct	Concluding that one disjunct of a logical disjunction must be false because the other disjunct is true. It asserts that a proposition
Affirming the consequent	The antecedent is claimed to be true because the consequent is true; if A, then B; B, therefore A
Denying the antecedent	The consequent is claimed to be false because the antecedent is false; if A, then B; not A, therefore not B

Quantification fallacies

A quantification fallacy is an error in logic where the quantifiers of the premises are in contradiction to the quantifier of the conclusion

Existential fallacy	An argument that has a universal premise and a particular conclusion

Informal Fallacies

Informal fallacies

Arguments that are fallacious for reasons other than structural (formal) flaws and usually rely on the argument's content.

Appeal to the stone	*argumentum ad lapidem* Dismissing a claim as absurd without demonstrating proof for its absurdity

Informal Fallacies (cont)

Argument from ignorance	*argumentum ad ignorantiam* It asserts that a proposition
Argument from incredulity	Appeal to common sense "I cannot imagine how this co
Argument from repetition	*argumentum ad nauseam*, *argumentum ad infinitum* sig
Argument from silence	*argumentum ex silentio* conclusion is based on the abs
Argument to moderation	*ad temperantiam* false compromise, middle ground, falla
Argumentum verbosium	See: by verbosity
Begging the question	*petitio principii* provides the argument's entirety
Shifting the burden of proof	See: *onus probandi* I need not prove my claim, you mus

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Informal Fallacies (cont)

Circular reasoning	*circulus in demonstrando* when the reasoner begins with what he is trying to end up with, sometimes called assuming the conc `cause such objects won't sink in water`
Circular cause and conseq-uence	The consequence of the phenomenon is claimed to be its root cause. Correlation does not imply causation
Continuum fallacy	Improperly rejecting a claim for being imprecise `Fred is clean- shaven now. If a person has no beard, one more erefore Fred can never grow a beard`
Correlati-ve-based fallacies	**Correlation proves causation** *post hoc ergo propter hoc* a faulty assumption that because there is a correlation between two variables **Suppressed correlative** where a correlative is redefined so that one alternative is made impossible
Divine fallacy	Argument from incredulity. Because something is so incredible / amazing / ununderstandable, it must be the result of superior, divine

Informal Fallacies (cont)

Double-counting	Counting events or documents more than once in probabilistic reasoning, which leads to the sum of the probabilities of all cases exceeding unity
Equivo-cation	**Misleading use of a term with more than one meaning** *Ambiguous middle term* a common ambiguity in syllogisms in which the middle term is equivocated *Definitional retreat* changing the meaning of a word to deal with an objection raised against the original wording.

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