Logical Fallacies

Excerpted from “Stephen's Guide to the Logical Fallacies” at http://www.datanation.com/fallacies/index.html

Fallacies of Distraction

- False Dilemma: two choices are given when in fact there are three options
- From Ignorance: because something is not known to be true, it is assumed to be false
- Slippery Slope: a series of increasingly unacceptable consequences is drawn
- Complex Question: two unrelated points are conjoined as a single proposition

Appeals to Motives in Place of Support

- Appeal to Force: the reader is persuaded to agree by force
- Appeal to Pity: the reader is persuaded to agree by sympathy
- Consequences: the reader is warned of unacceptable consequences
- Prejudicial Language: value or moral goodness is attached to believing the author
- Popularity: a proposition is argued to be true because it is widely held to be true

Changing the Subject

- Attacking the Person:
    - (1) the person's character is attacked
    - (2) the person's circumstances are noted
    - (3) the person does not practice what is preached
- Appeal to Authority:
    - (1) the authority is not an expert in the field
    - (2) experts in the field disagree
    - (3) the authority was joking, drunk, or in some other way not being serious
- Anonymous Authority: the authority in question is not named
- Style Over Substance: the manner in which an argument (or arguer) is presented is felt to affect the truth of the conclusion

Inductive Fallacies

- Hasty Generalization: the sample is too small to support an inductive generalization about a population
- Unrepresentative Sample: the sample is unrepresentative of the sample as a whole
- False Analogy: the two objects or events being compared are relevantly dissimilar
- Slothful Induction: the conclusion of a strong inductive argument is denied despite the evidence to the contrary
- Fallacy of Exclusion: evidence which would change the outcome of an inductive argument is excluded from consideration

Fallacies Involving Statistical Syllogisms

- Accident: a generalization is applied when circumstances suggest that there should be an exception
- Converse Accident : an exception is applied in circumstances where a generalization should apply

Causal Fallacies

- Post Hoc: because one thing follows another, it is held to cause the other
- Joint effect: one thing is held to cause another when in fact they are both the joint effects of an underlying cause
- Insignificant: one thing is held to cause another, and it does, but it is insignificant compared to other causes of the effect
- Wrong Direction: the direction between cause and effect is reversed
- Complex Cause: the cause identified is only a part of the entire cause of the effect

Missing the Point

- Begging the Question: the truth of the conclusion is assumed by the premises
- Irrelevant Conclusion: an argument in defense of one conclusion instead proves a different conclusion
- Straw Man: the author attacks an argument different from (and weaker than) the opposition's best argument

Fallacies of Ambiguity

- Equivocation: the same term is used with two different meanings
- Amphiboly: the structure of a sentence allows two different interpretations
- Accent: the emphasis on a word or phrase suggests a meaning contrary to what the sentence actually says

Category Errors

- Composition: because the attributes of the parts of a whole have a certain property, it is argued that the whole has that property
- Division: because the whole has a certain property, it is argued that the parts have that property

Non Sequitur

- Affirming the Consequent: any argument of the form: If A then B, B, therefore A
- Denying the Antecedent: any argument of the form: If A then B, Not A, thus Not B
- Inconsistency: asserting that contrary or contradictory statements are both true

Syllogistic Errors

- Fallacy of Four Terms: a syllogism has four terms
- Undistributed Middle: two separate categories are said to be connected because they share a common property
- Illicit Major: the predicate of the conclusion talks about all of something, but the premises only mention some cases of the term in the predicate
- Illicit Minor: the subject of the conclusion talks about all of something, but the premises only mention some cases of the term in the subject
- Fallacy of Exclusive Premises: a syllogism has two negative premises
- Fallacy of Drawing an Affirmative Conclusion From a Negative Premise: as the name implies
- Existential Fallacy: a particular conclusion is drawn from universal premises

Fallacies of Explanation

- Subverted Support (The phenomenon being explained doesn't exist)
- Non-support (Evidence for the phenomenon being explained is biased)
- Untestability (The theory which explains cannot be tested)
- Limited Scope (The theory which explains can only explain one thing)
- Limited Depth (The theory which explains does not appeal to underlying causes)

Fallacies of Definition

- Too Broad (The definition includes items which should not be included)
- Too Narrow (The definition does not include all the items which shouls be included)
- Failure to Elucidate (The definition is more difficult to understand than the word or concept being defined)
- Circular Definition (The definition includes the term being defined as a part of the definition)
- Conflicting Conditions (The definition is self-contradictory)