

# *Informal Fallacy*

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PAPER- FORMAL LOGIC

UNIT- V

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# *What is a Fallacy?*

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A fallacy is an error in reasoning. Incorrect reasoning is always fallacious.

Logicians commonly use the term 'fallacy' more narrowly, to designate not any errors in reasoning, but for *typical* errors- mistakes in reasoning that exhibit a pattern that can be identified and named. In narrower sense, every fallacy is justified through an incorrect argument.

Although mainly fallacies concern mistakes in arguments, some fallacies relate to explanations, definitions, or other instances of reasoning.

A Fallacy is also different form of factual mistake.

# Examples of Mistakes-

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**Logical mistake:- Fallacy:** Formal & Informal- Errors in reasoning/ argument/explanation are fallacious. Viz-

1. Making a contradictory claim, putting forward a question with unwarranted presuppositions, misinterpreting a statement by putting wrong emphasis on a word or phrase in it are counted as fallacies.
2. Any other argument form where there is no connection between premise and conclusion is also called a fallacy.

Rectification of these above mentioned errors need justification.

**Factual mistake:-** Mistakes done while depicting any fact, figure or information of any type that can be verified. Viz:

- 1.Total 11 countries are affected by Corona Virus all over the world- Wrong
2. India is a poor populated nation-Wrong
3. Deshbandhu College is established in 21<sup>st</sup> century-Wrong

Rectification of these above mentioned errors are factual errors are possible by correcting the facts based on right information.

# *Relevance of Fallacy*

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**Gottlob Frege:** Logician's task is to indicate the pitfalls laid by language in the way of the thinker.

Different forms of fallacies can help us

1. Improving our ability to argue well.
2. Developing the analytical skills.
3. Avoiding in committing mistakes repeatedly.
4. Detecting the error.
5. Making/promoting fair/just decision.

# *Classification of Fallacy*

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**A. Formal fallacy:** Violation of any formal rule in classical logic leads to formal fallacy.

( Will be discussed later )

1. Fallacy of Four terms
2. Undistributed Middle
3. Illicit Major & illicit Minor
4. Affirmative conclusion from Negative Premises
5. Exclusive premises
6. Fallacy of Affirming the consequent
7. Fallacy of denying the antecedent
8. Existential Fallacy

# *Classification of Fallacy (Contd.)*

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**B. Informal fallacy:** These are common mistakes in reasoning that appears to be valid sound, but in reality turns out to be either invalid or unsound.

1. Fallacy of Presumption
2. Fallacy of Relevance
3. Fallacy of Defective Induction
4. Fallacy of Ambiguity

# *Various Informal fallacies*

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## **A. Fallacy of Presumption**

1. Begging the Question
2. Accident
3. Complex Question

## **B. Fallacy of Relevance**

1. Appeal to Emotion
2. Red Herring
3. Straw Man
4. Appeal to Force
5. Missing the Point
6. Argument Against the person

## **C. Fallacy of Defective Induction**

1. Argument from Ignorance
2. Appeal to Inappropriate authority
3. Hasty Generalization
4. False Cause

## **D. Fallacy of Ambiguity**

1. Equivocation
2. Amphiboly
3. Accent
4. Division
5. Compositon

**Fallacy of Presumption:** Such arguments are based on unwarranted assumptions.

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**Fallacy of Begging the Question (*Petitio Principi*):** This fallacy is committed when the conclusion is assumed in the premise without being explicitly stated in the premises. It is basically a circular form of reasoning in which the truth of the conclusion is implicitly stated in the premises. **Ex. 'I think, therefore I am.'**

**Fallacy of Accident :** This fallacy occurs when some generalization is applied to an instance but it turns out that this is an inappropriate application. **Ex. Slow and steady drive is always advisable. Therefore one must be slow and steady while driving a heart attack patient to the hospital.**

**Fallacy of Converse Accident:** This fallacy occurs when exactly the converse happens. i.e. assuming that what holds true under some special circumstances must hold true as a general rule. **Ex. One is prescribed to take doctor's brandy to get rid of asthma. Therefore brandy is a good medicine for cold.**

**Fallacy of Complex Question:** This is deceptive way of questioning. In form of a single question more than one answer is claimed. **Ex. Have you stopped beating your wife? A simple 'yes' or 'no' answer will trap you admitting more than one fact.**



**Fallacy of Relevance:** In such cases premises/reasons are not relevant to support the conclusion.

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**Fallacy of Appeal to Emotion( *Argumentum ad Populum*):** In such cases an argument is given on the basis of emotions, sentiments and such kind of psychological traits of people which is wrong. Ex. **The vast majority believes that capital punishment has a deterrent effect. Therefore this view is absolutely right.**

**Fallacy of Red Herring:** A **red herring** is something that misleads or distracts from a relevant or important question. It is a kind of fallacy that is an irrelevant topic introduced in an argument to divert the attention of listeners or readers from the original issue. Ex. In an ideal world where every individual is honest and truthful, such fallacy never exists. Because such fallacy occurs when intentionally one tries to divert ones attention from the focal point.

**Fallacy of Straw Man:** This is another variety of Red Herring. The **straw man** fallacy involves misrepresenting an opponent's position to make it easier to refute. Straw man arguments often oversimplify opposing views or disregard inconvenient points in favor of points that are easy to argue against. Ex-

**Fallacy of Appeal to Force ( *Argumentum ad Baculum*):** This fallacy occurs when some one uses a threat of force instead of any logically relevant reason in support of the claim. Ex. **Incase my proposal is rejected, then be prepared for the consequence.**

**Fallacy of Relevance:** In such cases premises/reasons are not relevant to support the conclusion.(Contd.)

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**Fallacy of Missing the Point ( *Ignoratio Elenchi*):** When there exist a disconnection between the premise and conclusion, this fallacy occurs.

**Fallacy of Argument Against the Person ( *Argumentum ad Hominem*):** This fallacy always involves two arguer. This fallacy occurs when one of them is either attacked or rejected instead of the assertion itself. Such argument occurs in 3 forms, 1. circumstantial, 2. Abusive and 3. *tu quoque*. when an arguer attacks a person's character rather than the assertion made by that person, fallacy of ad hominem abusive is committed. Instead of heaping the verbal abuse on his/her opponent, incase the respondent attempts to discredit the other by using the circumstance, then fallacy of ad hominem circumstantial is committed. Fallacy of Ad hominem tu quoque is an attack on the person on the ground that the person does not practice what he preaches. Ex. You claim that atheists can be moral- but you claim to be an atheist , yet indulge in unfair and dishonest practices.( abusive).

You say that Govt should guarantee free elementary education for all children, but you are a publisher of text book for children and you stand to gain from this.( circumstantial)

you advice me that I should not smoke, but you are a chain smoker. (tu quoque)

**Fallacy of Defective Induction:** Such fallacies lack strong connection between the premise and the conclusion. These arguments mostly involve emotional ground to justify the conclusion.

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**Argument from Ignorance** (*Argumentum ad Ignorantiam*): This fallacy occurs when it is argued that something must be true simply because it has not been proved false, or that some thing must be proved false because it has not been proved true. **Ex. No one has proven that ghost do not exist, so ghost exists.**

**Appeal to Inappropriate authority** (*Argumentum ad Verecundiam*): Sometimes an appeal is made to the opinion of famous person to win support for an assertion. It is also inappropriate when the person cited is not qualified to have an expert opinion. **Ex. If one argues in support of God's existence on the ground that Issac Newton was a genius and he believed in the existence of God, then it will be inappropriate appeal to authority.**

**Hasty Generalization:** This is a fallacy that affects inductive generalization. It is committed *when what holds true of a few members of a class is taken to hold true of all members of the class*. This is a hasty jump to the conclusion because that property may not hold for all members of a class.

**Ex- 3 is a prime number, 5 is a prime number, 7 is a prime number**

**Therefore, all odd numbers are prime numbers.**

**False Cause** (*Non causa pro causa*): This fallacy occurs whenever the link between premise and conclusion depends on some imagined causal connection that probably does not exist. **Ex- A black cat crossed my path and later I met with an accident. It must be that the black cats are bad luck.**

# Fallacy of Ambiguity: Such fallacy occurs due to imprecise use of language

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**Fallacy of Equivocation:** Such fallacy is committed when a particular word or phrase is used with two or more different meanings in the same argument accidentally or deliberately. Ex . **Since a criminal is a law breaker, a criminal lawyer too is a law breaker.**

**Fallacy of Amphiboly:** The construction of a sentence sometimes allows it to have two different meanings or interpretations. Amphiboly occurs when an arguer misinterprets a sentence that is grammatically ambiguous and goes on drawing a conclusion on this faulty interpretation. Ex. **Having finished his project work for the boss, Mr X went with his family to an art gallery. 'his family' if analyzed, contains more than one interpretation.**

**Fallacy of Accent:** This fallacy occurs only when emphasis is used to suggest a meaning different from the actual content of the proposition. Ex. **If a teacher remarks ' Ritesh has completed his homework today', with undue emphasis on 'today', that might suggest that Ritesh normally does not complete his home work.**

**Fallacy of Division:** This fallacy occurs in an argument when an attribute true of the whole ( or a class) is erroneously transferred to its part( or members).

Ex. **Men are numerous. Aristotle is a man. Therefore, Aristotle is numerous.**

**Fallacy of Composition:** This fallacy occurs when an attribute true of the parts of something is erroneously transferred to the whole.

Ex. **Each player of the team plays well. Therefore, the whole team play very well.**

# Conclusion

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Both *formal* and *informal* fallacy are important and constitute an essential aspect of every one's life.

This PPT is all about the 17-18 *informal* fallacies which normally we commit during our day to day life.

All *formal* fallacies will be taught in my next PPT which will be exclusively on *Syllogism*.

This PPT is only a briefing of the entire chapter '*Informal* Fallacy'. You all need to go through each and every example given for each fallacy. The PDF of the Logic book *Copi & Cohen* is also uploaded. Go through it thoroughly and can ask me anything you want relating this chapter.

Individually you all can contact me on whatsapp.

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THANK YOU