

LOGICAL REASONING Fallacies

Fallacy: Flaw (Error) in logical reasoning.

INFORMAL FALLACIES

Informal fallacies are due to Substantive Error.

It's mainly because of unclear (ambiguous) expression of various forms.

- 1) **Fallacy of Equivocation:** (Use of a 'word' in multiple sense)
Example 1:
"You are a 'diamond'". (Note: The person is not a stone such as diamond).
Example 2:
"You are the 'light' of this home".
- 2) **Fallacy of Amphiboly (Semantic and Syntactic Ambiguity):**
(Use of 'sentence' in ambiguous way)
Example 1:
There are numerous accidents every day, it's time to improve it.
(Improve what? Accidents)
Example 2:
Project is supposed to start as we finish the project.
(Which project to finish and which one to start?)
- 3) **Fallacy of Composition:** (If it is true for one, then it is true for all)
(*In certain situations, something that is true for one may not be true for all.*)
Example 1:
(In a stadium) If I stand up, I can see the game better.
If all people stand up, then they can see better. (It's not true in practical situation).
Example 2:
Earth has life and earth has trees. All the planets with life have trees.
- 4) **Fallacy of Division:** (True for whole is true for part)
Example 1:
Concrete is hard object made from cement powder and water.
So, cement powder and water must be hard.
Example 2:
Water is a liquid formed from hydrogen and oxygen.
So, hydrogen and oxygen must be liquids.
- 5) **Fallacy of Accent (Stress on words):** (Fallacy of emphasis)
Example:
He met her at 8pm
He **met** her at 8pm
He met **her** at 8pm
He met her at **8pm**
This case the stress is on different words (parts) of a sentence.

- 6) **Red herring Fallacy:** (Irrelevant topic is introduced to divert the attention)

Example:

Jagan: Breaking a promise is not ethical.

Umesh: Well, how do we define ethics?

(Here Umesh diverts the attention of Jagan from the key point. Umesh asked about ethics and naturally the discussion revolves around ethics, rather than the key point of 'Breaking a promise'.)

- 7) **Fallacy of Ignoratio Elenhi:** (There is NO logical connection between premise and conclusion)

Example:

Premise: Working hard may help students to improve their scores.

Conclusion: Let the students work hard at the construction site in the school.

(Working hard to improve the score is taken in a different way and concluded as working hard at the construction site).

- 8) **Fallacy of Accident:** (General rule is not applicable in a specific case)

Example:

Mammals are animals. Bat is mammal, but bat is not an animal.

(Mammals are animals in normal case and BAT is a mammal, but NOT an animal).

- 9) **Fallacy of a straw man:**

(Refuting the arguments of the opponent by misinterpreting or oversimplifying or over exaggerating the argument)

Example:

Government: Privatization improves efficiency.

Opposition: Government has a hidden agenda to help certain entrepreneurs.

(This case, opposition is NOT challenging the efficiency of government plan because the opposition knows that privatization is effective. Instead, opposition alleges government has a hidden agenda to help certain entrepreneurs).

- 10) **Ad Hominem Fallacy:** (Focus on who makes the argument)

Example: If Shashi Tharoor says it? If a local leader says it?

(If Shashi Tharoor says it, then people consider it is credible. However, a local leader says shares the same information, then people may not find it credible. Here, focus is on who says it rather than what is being said? It is a flaw).

- 11) **Appeal to Pity** (*Argumentum ad misericordium*):

Example 1:

Sir, I know this job is offered only to NET holders. But, I was unable to appear for the NET exam. So, please give me this job.

(Here, the person knows the job is offered only to NET holders, but still the person appeals for pity).

12) Appeal to Ignorance (*Argumentum ad ignoratium*):

Accept the truth of a proposition unless someone can prove otherwise.

Example:

Space explorers try to locate other inhabited planets, but not successful so far. So, no other planet has life in this universe. (We believe it, until it is proved otherwise).
(Ancient days people used to think earth is flat, until it is proved otherwise).

13) Appeal to Force (*Argumentum ad baculum*):

If you don't vote for us, we stop all the fund allocations to your area.

(Forcing others to do something that they don't do in normal situation).

14) Appeal to Authority (*Argumentum ad verecundium*):

Example:

Mammooty suggests the best methods to be used in open-heart surgery.
(This case, Mammooty has the authority to say about cinema and acting, however, he has no medical degree or experience in the open-heart surgery to suggest the best methods. He has the authority as a spoke person in cinema field but NOT in medical field. Ultimately, a famous person in one field talks authoritative on topics from other fields and people accept, then it is logical flaw).

15) Appeal to Emotion or Appeal to People (Ad populum):

Example:

Everyone goes for vacation in Europe. So, you should go.
Everyone tries for civil service, so you should try.

16) Fallacy of Hasty Generalisation:

Fallacy of insufficient statistics / sample.

Example 1:

Sun is a burning star. All stars are burning.

(It is not necessary that all the stars are burning)

Example 2:

Rajith has a degree in robotic science. He is good for nothing. So, all the robotic science graduates are good for nothing.

17) Fallacy of Slippery Slope:

From a given starting point we may arrive at an undesirable (unexpected) conclusion.

Example:

Teachers in this school don't speak multiple languages.

If they don't speak multiple languages, the students may not understand well.

If the students do not understand well, they may not learn well.

If the students do not learn well, then they fail in all the subjects.

If the students fail in all the subjects, then they are not intelligent.

So, all the students in this school are stupid.

18) False Dichotomy (Either or Fallacy):

The arguer setup a situation so it looks like there are only two choices. The arguer eliminates one of those choices.

Example:

Either you drive on the left-hand side of the road, or you may end up with traffic offence charge and your vehicle confiscated.

(In the beginning it says 'either you drive...'. It seems like there is another choice, but later it says, you may end up with traffic offence and loss of vehicle. That means you must drive on the left side and there is NO other possibility).

19) Post hoc fallacy (False cause):

Example:

The exam was pretty easy, I used my silver coloured parker pen to write the exam.

20) Fallacy of Faulty (Weak) Analogy:

Example:

Learning karate is an extremely challenging physical activity.

So, learning table tennis must be an extremely challenging physical activity.

(Learning karate is compared to learning table tennis, but both are different in terms of physical effort required).

21) Begging the question (Arguing in cycle):

Example 1:

You are great because nobody is as great as you.

Example 2:

What is GD? GD means Group Discussion. What is Group Discussion? It is GD.

Again, What is GD? GD means Group Discussion.

(So, it goes in cycles without explaining the actual process of Group Discussion)

References:

1) Texas State University

<https://www.txstate.edu/philosophy/resources/fallacy-definitions.html>

2) <https://courses.lumenlearning.com/publicspeakingprinciples/chapter/chapter-6-informal-fallacies/>
