

原力英语全能提升训练营

B2 学术写作训练

写作中的常见逻辑误区

写作中的常见逻辑错误

Logical Fallacies

LOGICAL FALLACIES

- **Fallacies** are common errors in reasoning that will undermine the logic of your argument.
- Fallacies can be either illegitimate arguments or irrelevant points and are often identified because they lack evidence that supports their claim.
- Avoid these common fallacies in your own arguments and watch for them in the arguments of others.

LOGICAL FALLACIES

- **Slippery Slope**
- **Hasty Generalization**
- **Post Hoc Ergo Propter Hoc**
- **Genetic Fallacy**
- **Begging The Question**
- **Circular Argument**
- **Either/Or**

SLIPPERY SLOPE

- 滑坡谬误 (Slippery slope) 是一种逻辑谬论，即不合理地使用连串的因果关系，将“可能性”转化为“必然性”，以达到某种意欲之结论。
- This is a conclusion based on the premise that if A happens, then eventually through a series of small steps, through B, C,..., X,Y, Z will happen, too, basically equating A and Z. So, if we don't want Z to occur, A must not be allowed to occur either.

SLIPPERY SLOPE

Example:

- *If we ban Hummers(悍马) because they are bad for the environment eventually the government will ban all cars, so we should not ban Hummers.*
- In this example, the author is equating banning Hummers with banning all cars, which is not the same thing.

SLIPPERY SLOPE

- One of the most common real-life **slippery slope examples** is when you're tempted by an unhealthy treat. The typical thought process goes something like this:
- If I eat this donut today, I'll probably eat another donut tomorrow.
- If I eat one donut tomorrow, I might eat several donuts the next day.
- If I eat several donuts, it won't be long before I'm eating cookies and chocolate cake every day.
- My diet will quickly go out the window and I'll get morbidly obese.

HASTY GENERALIZATION

- 草率概括谬误（Hasty Generalization），可以理解为匆忙下结论，从单个特殊的情况推出一个总结论。
- When one makes a **hasty generalization**, he applies a belief to a larger population than he should based on the information that he has.
- This is a conclusion based on insufficient or biased evidence. In other words, you are rushing to a conclusion before you have all the relevant facts.

HASTY GENERALIZATION

- For example, if my brother likes to eat a lot of pizza and French fries, and he is healthy, I can say that pizza and French fries are healthy and don't really make a person fat.

HASTY GENERALIZATION

Example:

- *Even though it's only the first day, I can tell this is going to be a boring course.*
- In this example, the author is basing his evaluation of the entire course on only the first day, which is notoriously boring and full of housekeeping tasks for most courses. To make a fair and reasonable evaluation the author must attend not one but several classes, and possibly even examine the textbook, talk to the professor, or talk to others who have previously finished the course in order to have sufficient evidence to base a conclusion on.

HASTY GENERALIZATION

- Examples:
- You visit a new country and the first person you meet in the airport is rude. You send a message to a friend back home that everyone in this new country is rude.
- Christine has a terrible experience with a boyfriend. She decides that all boys are mean.
- Kevin's grandparents do not know how to use a computer. Kevin thinks that all older people must be computer illiterate.
- A driver with a New York license plate cuts you off in traffic. You decide that all New York drivers are terrible drivers.

POST HOC ERGO PROPTER HOC

- 错误因果（Post hoc ergo propter hoc），是一种逻辑谬论，也作“后此故因”。
- Post hoc ergo propter hoc (Latin:“**after this, therefore because of this**”) is a logical fallacy. The fallacy is generally referred to by the shorter phrase, "**post hoc.**"
- This is a conclusion that assumes that if 'A' occurred after 'B' then 'B' must have caused 'A.'
- 迷信思想常与这种因果错误相关。比如，如果人们行完乞雨仪式后，出现降雨，不能因此认为下雨由于人们跳了乞雨舞。

POST HOC ERGO PROPTER HOC

Example:

- I drank bottled water and now I am sick, so the water must have made me sick.
- In this example, the author assumes that if one event chronologically follows another the first event must have caused the second. But the illness could have been caused by the burrito the night before, a flu bug that had been working on the body for days, or a chemical spill across campus. There is no reason, without more evidence, to assume the water caused the person to be sick.

POST HOC ERGO PROPTER HOC

Examples:

- Every time that rooster crows, the sun comes up. That rooster must be very powerful and important!
- Our soccer team was losing until I bought new shoes. We have not lost a game since I got my lucky shoes!
- I sneezed at the same time the power went off. My sneeze did something to make the power go off.
- The temperature has dropped this morning, and I also have a headache. The cold weather must be causing my headache.

GENETIC FALLACY

- 起源谬误（Genetic Fallacy）是一种不相干的谬误，系针对论述的起源攻击，而非针对该论述本身攻击。
- This conclusion is based on an argument that the origins of a person, idea, institute, or theory determine its character, nature, or worth.

GENETIC FALLACY

The logical forms of this type of argument are:

- Person A made a claim X.
- Person A is a bad source.
- Therefore, X is false.

Or, conversely:

- Person A made a claim x.
- Person A is a good source.
- Therefore, claim X must be true.

GENETIC FALLACY

Example:

- The Volkswagen Beetle is an evil car because it was originally designed by Hitler's army.
- In this example the author is equating the character of a car with the character of the people who built the car. However, the two are not inherently related.

GENETIC FALLACY

Examples:

- Richard Dawkins, a brilliant evolutionary biologist, said that God doesn't exist. Therefore, God does not exist.
- You shouldn't believe anything the media says, it's all fake news.
- My doctor is overweight, so I don't believe anything he tells me about improving my health.
- Donald Trump is a millionaire, so anything he says about the economically disadvantaged people in the country is a bunch of lies.

BEGGING THE QUESTION

- 窃取论点（Begging the question），是在论证时把不该视为理所当然的命题预设 of 理所当然，这是一种不当预设的非形式谬误。
- It occurs when the premises that are meant to support an argument already assume that the conclusion is true. If you start from a place where the conclusion being argued is already assumed true, then you're not really making an argument at all. There is no supporting evidence.

BEGGING THE QUESTION

Example:

- Filthy and polluting coal should be banned.
- Arguing that coal pollutes the earth and thus should be banned would be logical. But the very conclusion that should be proved, that coal causes enough pollution to warrant banning its use, is already assumed in the claim by referring to it as "filthy and polluting."

BEGGING THE QUESTION

Example:

- Everyone wants the new iPhone because it is the hottest new gadget on the market!
- Killing people is wrong, so the death penalty is wrong.
- Fruits and vegetables are part of a healthy diet. After all, a healthy eating plan includes fruits and vegetables.

CIRCULAR ARGUMENT

- 循环论证（Circular Argument），用来证明论题的论据本身的真实性要依靠论题来证明的逻辑错误，简单一点说就是将要论述的观点假设为正确并且作为论述的前提。比如证明“鸦片能催眠”，所用的论据是“它有催眠的力量”。而“鸦片有催眠的力量”，又要借助于“它能催眠”来证明。这就是犯了循环论证的自证。
- This restates the argument rather than actually proving it. It occurs when the end of an argument comes back to the beginning without having proven itself.

CIRCULAR ARGUMENT

Example:

- George Bush is a good communicator because he speaks effectively.
- In this example, the conclusion that Bush is a "good communicator" and the evidence used to prove it "he speaks effectively" are basically the same idea. Specific evidence such as using everyday language, breaking down complex problems, or illustrating his points with humorous stories would be needed to prove either half of the sentence.

CIRCULAR ARGUMENT

Examples:

- Everyone loves Rebecca, because she is so popular.
- You must obey the law, because it's illegal to break the law.
- Harold's new book is well written, because Harold is a wonderful writer.
- America is the best place to live, because it's better than any other country.

EITHER/OR

- 非此即彼谬误（Either/or）指只陈述了两种可能的选择，而实际上有两种以上的选择。这种谬误常常是有人试图说服别人相信只有两种选择存在。有人认为这种谬误正在被使用必须能够证明至少还有一个相关且有意义的选择是可用的。
- This is a conclusion that oversimplifies the argument by reducing it to only two sides or choices.

EITHER/OR

Example:

- We can either stop using cars or destroy the earth.
- In this example, the two choices are presented as the only options, yet the author ignores a range of choices in between such as developing cleaner technology, car-sharing systems for necessities and emergencies, or better community planning to discourage daily driving.

EITHER/OR

Examples:

- You could either pursue your dream job or stay where you are and be miserable for the rest of your life.
- You can either come with me to the party tonight or sit at home alone and be bored all night.
- If a government official doesn't take active measures against corruption, he/she is believed to support it.