Logical fallacies 3 _ Fallacies of cause and effect.

Glossary of terms:

1. **Paradox**: also known as an antinomy, is a logically self-contradictory statement or a statement that runs contrary to one’s expectation. It is a statement that, despite apparently valid reasoning from true premises, leads to a seemingly self-contradictory or a logically unacceptable conclusion.

**Fallacies of cause and effect.**

**Correlation** does not entail **causation**. Simply because you can find two things occurring together does not mean that we can assert with any certainty that one is the cause of the other. This is an **erroneous inference** based on chronological order, neglect of a common cause, oversimplification, assuming that one condition is necessary or sufficient to cause the other or stating a string of causes without a valid justification.

**Post hoc, ergo propter hoc** (“After this = because of this”). This is a cause and effect assumption based on nothing but time order. Not because two things happen chronologically it means that one is the cause of the other.

**Neglect of a common cause**: We assert that because A and B are together, that may be the cause of C, ignoring the possibility of a third factor that may cause A, B or C.

**Causal oversimplification**: Takes a complex interplay of causes and ignores all but one, falsely elevating it to the status of THE ONLY cause.

Example: “The rise of divorce rates is the result of the women’s rights movement.”

**Confusion of a necessary and sufficient condition**: The error where we take a sufficient condition wrongly to be necessary or a necessary condition wrongly to be sufficient.

**Slippery slope fallacy**: An entire string of cause and effect relations is positive without being justified.

Example: “The BLM protests have resulted in an increase of Covid-19 cases”.

This is potentially an example of both **Post hoc, ergo propter hoc** fallacy and **causal oversimplification**. A rise in the registered cases of Covid-19 after the BLM protests implies that this is the only correlation between the mass gatherings in these specific popular protests and the rise in the viral contagions, ignoring any of the other factors for the spread of the pandemic.