## Science and the Comparative Method

1. **Science**
   1. **Not a collection of facts that tell us what we know about the world**
   2. **A scientific theory is NOT one that has been proven**
   3. **Science is a method and a culture**
   4. **Cause and effect**
      1. Dependent variable (Y) = Effect
      2. Independent variable (X) = Cause
   5. **Mill’s method aka the Comparative Method**
      1. The systematic search for *necessary and sufficient* causes of political phenomena
         1. Methods of agreement
         2. Methods of difference
   6. **Conditions**
      1. **Necessary condition (Double negative)**
         1. A circumstance in which absence the outcome cannot occur
            1. Y never happens unless X happens

Example: You cannot have fire without oxygen.

Example: Without people you can not have politics

* + 1. **Sufficient causes (Double positive)**
       1. A circumstance in whose presence the outcome must occur
          1. Y always happens if X happens

Example: Jumping as a cause if sufficient for leaving the ground.

This does not mean that if you are off the ground you HAVE jumped, but jumping will get you that outcome every time.

Example:

* + 1. **Necessary and Sufficient Condition**
       1. A circumstance in whose absence the outcome cannot occur and in whose presence the outcome must occur
          1. Y occurs if and only if X occurs

Example: Gravity is a necessary and sufficient condition for an inanimate object to fall into the ground.

Example: You can’t have rain without cumulonimbus clouds, but you can have clouds but no rain.

* 1. Mill’s Method of Agreement
     1. The cases being compared agree on the dependent variable.
        1. They result in the same outcome
        2. A parliamentary system may be a necessary condition
        3. Ethnic homogenous is not necessary
        4. A multiparty system is not necessary

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| --- | --- | --- | --- | --- |
| Country | Democracy | Ethnically homogenous | Multiparty System | Parliamentary system |
| UK | Yes | Yes | No | Yes |
| Belgium | Yes | No | Yes | Yes |