1 | **Robustness**

#flo #disorganized

- Aristotle as seed of idea triangulation
  - The idea of confirming a phenomenon through multiple ways of observation
  - Not a thing that people talk about much, but present in many philosophies
- Robustness Analysis
  - Based on concept of triangulation
  - Basic steps
    1. Analyze a variety of independent derivations
       * This could mean a lot of things, like
         · Different senses of the same thing
         · Different procidures to sense the same thing
         · Different assumptions to verify the same thing
         · Different tests of the same thing
    2. Look for identical conclusions from these different derivations
    3. Analyze the scope and conditions from which these derivations exist
    4. Analyze any failures of the invariance
  - If, under step 4, there be things that are invariant and within the margin of falure, the analysis is ”robust”
- Common theme across all types of robust analysis
  - Distinction between the material and the unmaterial
  - Each verification process is independent
  - Robustness evaluated on the basis of ”changeability” — that is, if under different circumstances, theories are unmutating, they are more robusta
- Robustness prevents the ”weakest link problem”
  - With multiple derivations under different assumptions, problems could be spotted independently
  - Thus, if one point in one senario theory breaks down, you either notice it very quickly or the theory is not entirely disproven although less robust
  - If one arm is simply weakened, still the others could support the theory and the special case could further lead to scientific discovery
- Failures of robustness analysis — ”illusions of robustness”
  - Supposedly independent tests acutally dependent
  - For instance, IQ tests are not actually quite that independent of social factors
  - Not very easy to detect underlying causes of dependence
    * Factors could be reinforcing
    * Each may hide the others being actually dependen