

**Lecture 6, Part II: Ch. 3 §6: “Canons of Statistical Residues” &  
Ch. 4 §2: “Complementarity of Classical and Statistical Investigations.”**

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- § 6 Canon of Statistical Residues.
- Need statistical methods *because* the universe has that kind of intelligibility (i.e., probability), not only for bureaucratic management of organizations and societies
- Distinction between Imaginative Synthesis & Systematic Unification.
- Classical laws are intrinsically abstract and conditioned. Hence systematic unifications of abstract laws are also abstract, indeterminate.
- But Imaginative Syntheses surreptitiously introduce additional, particular conditions, creating an illusory determinism (an extra-scientific assumption).
- Example from physics: Is the evolution of the universe governed by *one law*?
- If the classical laws alone or in systematic unification do not imply a deterministic universe, what sorts of alternative views of the universe are therefore possible?
- Lonergan will develop emergent probability as a very likely alternative.

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- §6.5.2: Diverging Series of Conditions
- Diagram of a random series of events in time and space.
- Tracing back the causal sequences shows that their causes can be ever more divergent and nonsystematic.

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- Student Questions:
  - Is this an argument against social sciences, that they are corrupt? In the sense that social sciences want to trace everything human back to some one cause?
    - Examples of oversimplification and reliance on extra-scientific opinions in certain fields.
  - Question about how Stephen Hawking would respond to Lonergan’s argument.
    - Discussion of the hypothesis of multiple universes, all with a single cause.
    - Question about tracing back only the relevant, proximate causes.
    - Discussion about tracing back to pertinent (causative) factors; and the need to distinguish intelligibility of a single event versus the intelligibility of the aggregate of events.
      - Science’s inability of science to explain why *these*, rather than some other, classical laws (correlations) are the ones that are
      - Science’s inability to explain the reasons for the conditions under which classical correlations operate, etc.
      - Statistical probabilities remain constant despite non-systematic divergences; but statistical science does not explain the precise set of nonsystematic divergences from the probabilities.

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- Question about whether a Grand Unified Theory would be a claim that the whole is no than the sum of its parts, whereas for Lonergan the whole is larger than the sum of its parts.
  - Discussion of Lonergan raising the question about *what* the whole *is*.

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- *Insight*, Chapter 4: “The Complementarity of Classical and Statistical Investigations”
- Mainly focus on §2: “Emergent Probability.”
- Four Basic Kinds of Scientific Heuristic Methods:
  - Classical, Statistical, Genetic, Dialectical.
- What happens when Classical and Statistical Methods are combined?
  - Classical: Discovering functional correlations among data.
  - Statistical: Discovering Ideal frequencies among data.
  - Interaction between the two practices: worldview of Emergent Probability
- Non-systematic Processes as the womb of novelty.
- Probabilities themselves emerge (probabilities shift in time).
- Probability indicative of the directionality of the universe.
- Internal vs. external directionality of the universe.

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- Universe is not a big box. Universe is not a big space.
- The Universe is a process constituted by Emergent Probability
- Lonergan’s “Worldview” = Emergent Probability.
- The universe has a *kind* of intelligibility that does not eliminate contingency or nonsystematicity.

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- Definition of Emergent Probability: Abbreviated version & long, precise version.

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- Illustration: Emergence of a volcanic island.
- Conditions for the emergence of biological schemes were initially absent.
- Once cool enough, certain vegetation schemes emerge and set conditions for later schemes of vegetation.
- What emerges? Qualities? Things? Properties? Schemes?
- How many different kinds of schemes there are in the natural order.
- Emergence of Schemes of Recurrence: a series of events linked by classical correlations.

End of Part II.