Lecture 4: *Insight*, Chapter 2. "Heuristic Structures of Empirical Method." Part I

[0:00]

- Why does Insight begin with technical scientific matters?
    - How can sections on such unfamiliar topics be in aid of self-appropriation?
    - Lonergan gives several different explanations for beginning with natural science
    - Clarity and precision of these insights
    - Natural science illustrates the methodical dynamism of inquiry.
    - The experience of formulating definitions and concepts is more evident.

[5:15]

- Yet Lonergan himself raises the question biases – of alien interests, or disruptions to the dynamic process of pure inquiry.
- Natural science can be distorted by political interests, racial biases, profit motives, etc.
- Lonergan's reasons for starting with science are thus somewhat more complex.

[9:50]

- A key to a different reason for beginning with natural science
- One finds a 'crossing of the Rubicon' in Ch. 2, Sect. 3: "Concrete Inferences from Classical Laws."
    - Sect. 3 makes the transition from one heuristic method to another (i.e., from classical to statistical methods).
    - It highlights the limitations of the 'classical scientific method' typical of Enlightenment thinking.

[11:51]

- "Why Begin with Science?" is a question that Lonergan himself poses in Ch. 2, Sect. 2.
- Analyzing scientific procedures in terms of insight is a novel approach.
- Does this new approach conflict with earlier assumptions of science? Or merely with earlier "extra-scientific opinions" on science?
- Lonergan aims to test his account of science by paying attention to how scientists actually operate, leaving aside extra-scientific opinions about science.
- This aim leads him to situate the chapters on science at the beginning of *Insight*.

[16:03]

- Lonergan claims that the modern world has been shaped by extra-scientific opinions, and that these have gone unchallenged due to the oversight of insights that occur in science.

[16:57]

- Some Extra-Scientific Opinions that developed along with science:
    - Science's purpose assumed to be the "betterment of man's estate" – Leon Kass.
    - This assumption dates back to the early days of modern science, and was first articulated by Francis Bacon.
    - It was developed by Descartes, who saw in science a means to become "masters and possessors of nature."

- Note the difference between doing science, on one hand, and interpreting the meaning/purpose of science, on the other.

[25:00]
- Example: A scientist being asked to justify a new method for exploring the surface of Mars in terms of its practical and social benefits.

[28:13]
- Extra-scientific opinions in the 20th century all emphasized determinism, necessity, indifference of the universe to human aims.
    - Max Weber's fact and value distinction.
    - All forces in play are now subject to calculation, and leads to the disenchantment of the world.
    - Human existence as contingent and haphazard, in an "unfeeling universe" seen from a biochemical point of view (Jacques Monod).
    - Richard Dawkins – modern science reveals nature as mere brute force, "red in tooth and claw."

[34:35]
- Questions asked by Lonergan in *Method in Theology:*
    - Is moral enterprise consonant with this world?
    - Are we merely gamblers and fools, hoping for progress against the odds, in a declining world (universe of increasing chaos)?
    - Is there a transcendent, intelligible ground of the universe?
    - Is that ground the primary instance of moral consciousness, or are we?

[38:26]
- Stuart Kauffman's *At Home in the Universe* presents arguments against these extra-scientific opinions of the 20th century, drawn from sophisticated bio-informatic models.
- Humans did not come about in a merely 'ad hoc' manner.
- The natural emergent order of the world was inevitable; given the universe that we have. Humans are not out of harmony with the natural emergent order but an intrinsic part of it.

[42:11]
- Lonergan argues a point very close to that of Kauffman.
- Lonergan's Position (given in Chapter 19 of *Insight*).
- Reality is completely intelligible.
- The immanent order of the universe is one of emergent probability.
- Our striving for good is part of the directedness of the natural universe.
- The universe is our home, as meaning-seeking and morally striving beings; not fundamentally alien to us and our fundamental aspirations, which needs to be subdued.
- Lonergan argues this view of the universe as hospitable to the highest human strivings follows from the actual practices of the natural sciences as truly self-appropriated.

[45:12]
• Student question about the meaning of intelligibility and Lonergan's use of explanatory definitions.
  - Discussion of how insights always initially occur in a fusion with the sensible and imaginative *noematic* contents (*phantasms*) from which they emerge.
  - Especially in explanatory definitions, Lonergan highlights the differences of sensible and imaginative *noematic* contents from the distinctive content of insights (intelligibility), forcing us to relinquish our laziness in letting images do our thinking for us.
  - And to take possession of ourselves as also intelligent (self-appropriation).
• Question as to whether Lonergan is reaching out to scientists through these examples.

[51:50]
• Question about the post-World War disillusionment about the meaning of life, and whether these extra-scientific opinions were the result of that, or resulted independently and inevitably from scientific progress itself.
  - Lonergan was deeply concerned with the sources of that disillusionment.
  - The problem is not science but the extra-scientific opinions that led to a post-Enlightenment revision of the very idea of *reason*.

[54:37]
• Question on whether the intelligibility of the real implies that we have the potential to know being completely.
  - – The full treatment of the intelligibility of the real not completed until Chapter 19
  - Lonergan approaches being in terms of an analysis of the *notion* of being, the human anticipation of being.
  - Lonergan's first step is to show that the world known by science is intelligible, thanks to insight.

[57:55]
• Question about Lonergan's views versus those of Bacon and Descartes.
  - Lonergan as a philosopher is interpreting science in a way more true to the real practices of science.
  - The *telos* or objective of science does not put human beings at the center of the universe.
  - Science is not merely to serve human interests but rather, aims at a perfection transcending human purposes.

[1:02:00]
• Comparison of Lonergan's argument to Kauffman's.
• Instead of biochemical processes, Lonergan references the structures of human cognitional activity, specifically how they are structured by heuristic methods.

[1:04:08]
• Four fundamental kinds of scientific, heuristic methods structuring knowledge:
    • Classical: Functional correlations among data.
    • Statistical: Ideal frequencies among data.
    • Genetic: Embryology and the discovery of intelligible sequences of transformation so systems. (Extended discussion)
    • Dialectical: Discovering the roots of conflicts in human affairs. Only humans can act unintelligibly, unreasonably, and irresponsibly. (Extended discussion)

[1:08:53]
• What is science?
• Human intelligence is essentially dynamic; that is, it is permeated with the dynamism of inquiry and self-correcting understanding.
• Science is *methodologically* dynamic.
• An explication of methodical dynamism allows for a general explanation about a world towards which that that methodical dynamism is oriented.

[1:10: 32]
• Student question about transferring scientific methodological dynamism to ordinary, moral and common sense intelligibility.
• Further student question about the nature and role of human science.

[1:12:40]
• What is science? Explanation *vs.* Description.
    • Chapter 2 §1. Math & Science: Comparison of these in terms of insight.
    • Mathematics: Lonergan characterizes math not as primarily logical, but as primarily heuristic. Not a static structure but a dynamic way of searching for the unknown.