
[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.
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.

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.

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.

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.

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.
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)

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 methodical dynamism is oriented.

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.

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.