

Insight & Beyond: Lecture 8, Part I: *Insight*, Chapter 5. “Space and Time.”

[0:00]

- Review of previous class: Lonergan defines Space and Time as the ordering of concrete extensions and durations.
- Different kinds of reference frames (personal, social, special) are associated with different kinds of orderings.
- Note that Lonergan talks about both concrete and abstract intelligibility of Space and Time.

[1:24]

- The problem of ordering extensions and durations arises in relation to certain questions.
- These include questions like: “Where am I?”, “Where are you?”, “When did that happen?”, etc.
- We aim to situate our own concrete, limited experience to what is beyond our immediate, sensible experiences.
- We thereby transcend our own limited durations and extensions.

[3:19]

- Personal reference frames relate extensions and durations to one’s body and bodily rhythms (such as breathing, heartbeat).
- Class exercise in appropriating one’s personal reference frame.
- “Same Space” despite different sensibly experienced extensions.
- Discussion of difference of an adult reference frame and an infants' incomplete reference frame.
- Adults know what to expect, how to integrate where to go, how to relate present vs. absent sense extensions. This is due to enrichment of intelligible organizing by insights.
- Two meanings of present: immediacy of presence in Space and immediacy of presence in Time – i.e. the immediacy of extension and duration – has its origin point in the person.

[10:33]

- Jean Piaget's studies in child development show that children experience and conceive space very differently than adults do.
- Young children start off with various different spaces (mouth-space, hand-space, right- and left-hand space, visual space, etc) which have to be integrated.
- Visual space and tactile space are separate, for instance, since children have no control over what they see.
- These spaces are gradually formed into a whole as a child learns to relate the various spaces to his or her own bodies, developing a personal reference frame.
- In Lonergan's view, children gradually have insights into way these various spaces are interconnected and develop orderings systems. For example, a child discovers that it can touch certain objects that have also been flying by its visual field.

[15:46]

- Piaget’s *The Child's Conception of Space*. [N.B.: Some slides mistakenly reference one of Piaget’s other books, *The Child's Conception of Geometry*.]
- Piaget holds that children organize their personal reference frames in several distinct phases.
- They begin with a topological organization of spaces, followed by a projective organization,

and then a Euclidean one.

- He explored the child's conception of geometry at the topological stage by analyzing children's drawings.
- Children at the earliest stage, when asked to reproduce certain geometric figures, preserved only the topological features; that is, they were accurate in terms of continuity/discontinuity, enclosure/exclusion, inside/outside, nearness/farness.
- For instance, one child copied a square in a way that marks the four corners; it thus exhibits awareness of discontinuity.

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- Further examples of amoeba-like figures drawn by the child preserve all the topology, none of the shapes: outside, inside, and upon.
- The child struggles to reproduce a circle within a triangle, preserving topological features only.

[24:58]

- Student question about whether Piaget explains the order of these insights.
- Piaget actually had extensive and sophisticated explanations of how lower structures were necessary for higher structures to emerge. In this respect his thinking is similar to Lonergan's account of higher viewpoints.
- *Topics in Education and Method in Theology* both deal Lonergan's uses of Piaget's work further.
- Further discussion of the difference between perception and understanding. Perception itself is something that is gradually structured and developed.
- Children see something different from what we see; initially for children, all is "a blooming, buzzing confusion." The first structuring of that into perceptions is topological structuring.
- Lonergan insists that we use our intelligence to construct our perceptions. Even three-dimensionality is a result of insights.
- He discusses the intellectual patterning of spatial experiences in Chapter 6 of *Insight*.

[31:59]

- Piaget also did experiments to show how children perceive and represent objects given to them perspectively.
- For example, a stick and a disc appear very differently from different angles.
- Children initially drew the disc as a full circle, no matter what angle it was given. They later modified their drawings in curious ways that indicated some effort at perspective. Finally they achieve the capacity to see perspectively and draw using a vanishing point.

[37:55]

- In another experiment related to personal reference frames, children were asked to connect up toy soldiers upon a table. They initially did this topographically, later projectively. (They don't project straight lines from one point to another!)

[39:35]

- Student question about the invention of perspective drawing and how cultural influences bear upon our understanding and representation of space.
 - Piaget's ideas have been applied to the history of art. Christian Norberg-Schultz drew upon Piaget's ideas to investigate the history of architecture, as we will see later.
- Further class discussion of spatial ordering systems in relation to various cultures and various epochs. People do order their living spaces in different ways, and different kinds of spaces came

into being with Euclidean geometry and modern geometries.

- The cultural invariance of Piaget's account is debated. Lonergan thinks a correct ordering of Space is something to be investigated, it is not predetermined – in opposition to Newton and Kant. Mircea Eliade, Kevin Lynch and Norberg-Schultz will discuss cultural orderings of space and time. Additional discussion of Egyptian art and architecture, and the world-view implied by their preferred method of ordering spaces.

[44:15]

- Kinds of Space and Time: Public Reference Frames.
- The intersubjective ordering of Public Reference Frames brings up more complex questions.
- Not only how my personal ordering goes beyond *my experiences* of extensions and durations, but how my ability to appropriate public orderings goes *my personal ordering* of experiences.
- Public spaces involve insights that organize around “Origins.”
- They allow for locations and dates to be rendered commonly intelligible, that is, publicly shared.
- One's own personal way of ordering extensions and durations are translated into the ways others order their experiences.

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- Piaget's experiment with three mountains explores how children learn to envision different perspectives of a set of objects, by taking into account the change spatial relationships (in front of, behind, next to, etc).
- Learning to translate from one reference frame into another is essential to the construction of public reference frames; the latter serve as a larger context for situating personal reference frames, and allow us to translate from one personal reference frame to another.

[52:30]

- Example of map of Boston public transportation system: a topological representation. It displays only continuity and discontinuity (getting on and off, changes) but it nevertheless serves to integrate our bodily orientation into a public frame.

[54:45]

- Questions like “Where am I?”, “What time is it?” and “When did it happen?” are answered differently, depending on whether one asks them in a personal or public reference frame.
- Situated within public reference frame, the question “Where?” implies in relation to an intersubjectively understood and agreed upon Origin.
- Mircea Eliade pointed out that if Space and Time are experienced as completely homogeneous, as lacking any orienting Origin, then they are experienced as a meaningless Chaos.
- In the public reference frame, the Origin points becomes highly significant for a whole group; they are intersubjectively understood and accepted, perhaps collectively chosen as well.
- They serve as founding moments or points, around which all other extensions and durations are oriented and structured and given meaningfulness in relation to Origins via insights.

[1:01:03]

- Homogeneous space can be symbolized by endless water, as found in several creation myths.
- Contrast this homogeneous space to one with an origin point, such as an island or an oasis. In *Genesis*, the waters are divided and the paradise becomes an Origin point, making orientation possible.
- Pure homogenous space can be seen as a kind of empirical residue.
- Public space requires a publicly meaningful Origin point.

[1:04:00]

- There are other kinds of Origins.
- For example, “There's no place like home.”
- Home is really a group of people, bound to a place laden associations, experiences, memories.
- Public space is often oriented with respect to home.
- People have their own secret places, their neighborhood, their hang-outs, their alma mater, etc.
- There are places where life-changing events occur: where one meets one's love, where warriors have fallen, where people were born or passed away. Such events can all make places into origin points.

[1:09:49]

- When you ask “Where are you?” in a public reference frame, you're trying to relate your immediate surroundings to other reference frames, to render them meaningful in relation to some public Origin, to their larger context, or to get back to your origin, etc.
- We cannot talk about Space and Time without also talking about origins, claims Lonergan, and these are not arbitrary.

[1:11:43]

- Student question about whether these relations are commonsense insights, and if so, is it the case that any reference frame beyond my personal one is public?
 - Yes. In a public reference frame there is the issue of the Origin, and then of the relatedness to that Origin. Our organization of public Space is largely topological; suffused with meaningful paths and reference points (landmarks). The phenomenon of being lost has to do with an inability to situate yourself with respect to meaningful places and reference frames. The urban architect Kevin Lynch describes being lost: the circumstances, the emotional consequences, etc.

[1:15:38]

- Student question of Lonergan's relation to Heidegger.
 - Norberg-Schultz was influenced by Heidegger, along with Piaget, and they have played a major role in the class presentation. Lonergan in *Insight* at least was not influenced by Heidegger, but there are similarities in the treatment of Space and Time. Lonergan made his own distinctive contribution, however, particularly regarding the role of insights in our organizing of extensions and durations. Moreover this enables him to deal with the problem of relativism later on.

[1:17:24]

- Two main issues are associated with public reference frames:
 - *What* is the Origin, in relation to which other things are made meaningful?
 - *How* other places are related to the Origin?
- Origins must be intersubjectively understood and agreed upon
- Thus paths and landmarks are required to relate places; they enable these relations.
- The empirical residue (homogenous space) makes it possible for Space to be *publicly* intelligible, mutually understandable, insofar as it is open to hosting a plurality of unique different intelligibilities.
- The homogeneity that Eliade characterizes as Chaos is also the unformed residue out of which can come intelligible organizations that can be understood by a multiplicity of persons.

[1:21:09]

- In *The Image of the City*, Kevin Lynch discusses the way that public images (common mental pictures), held in people's imaginations, help construct a public reference frame.
- But an image as such is not shareable. It is the intelligible connectedness of images that can be publicly shared.
- Lynch discusses the factors that facilitate or impede a generally shared, intelligible reference frame.
- Namely, a vivid and integrated physical setting helps establish public images.
- Those public images are made possible with the help of insights – makes it possible to hold images in common.
- For example, insights contribute to way-finding and remembered routes. The cultural reference frame of Boston is not identical to the actual layout of the city, but is influenced by a publicly shared reference frame, which contains some points of confusion.

End of Part I.