

*Joistings 14***Pedagogy, Popularization, Enlightenment****1. The Significance of Symbolism**

Here I find myself at a deep loss. The topic is “The Method of Metaphysics”, but especially in relation to the task of the metaphysician of providing “a symbolic indication of the total range of possible experience”<sup>1</sup>. Is not this what God does in the cosmic word? I ended the final chapter 7 of the little book *Music That Is Soundless* in August 1968 with the words, “it is all so much, so sadly much, beyond words”. But do not think here of flashes of mystical light. Think of plodding<sup>2</sup>. That same summer Lonergan contacted me about his economic typescript of about 130 pages: could I find an economist? I was to spend a great deal of the next 30 years getting beyond the words of those pages.

But the challenge of getting beyond, of reading adequately, did not surprise me. I had been lucky, lifted out of the ethos of obviousness, summary expression, swift telling, by luck. In my teen years I had tried to “read” the symbols of Chopin’s *Ballades*. In the year before I began reading Lonergan I had struggled for months reading the classic Schrödinger’s *Space-Time Structure* dominated by its tensor symbolisms.<sup>3</sup> But

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<sup>1</sup>*Insight*, 396[421].

<sup>2</sup>Perhaps I might even suggest a sober slogan that could protect us from various derailments of the present project, a cultivation of kataphatic contemplation: instead, then, of talking about “understanding what it is to understand” think about “thinking about thinking”. The contemplative stance is described in Cantower 21, “Epilodge”.

<sup>3</sup>I would still recommend it as a background to reading chapter 5 of *Insight*. There is also Lonergan’s choice, still on-the-ball: Lindsay and Margenau. A fuller contemporary perspective is Ian Lawrie, *A Unified Grand Tour of Theoretical Physics*, Institute of Physics Publishing, Bristol and Philadelphia, 1998 pbk. But, perhaps, curiously, for anyone seriously getting into the problem I consider two older works worth the sweat, but by Sir Arthur Eddington: *Space, Time and Gravitation*, originally Cambridge University Press, 1920; the second relevant work of his

here the challenge is to point you, or the vast majority of you, towards a lift of symbolism out of an ethos which is the death-blood of our axial times. Not a lift, but a nudge towards symbolism; not the majority, but some few.

The problem of ethos is as concrete as my classroom experience of teaching mathematical physics, where the course was identified as an honours program and thus respectfully recognized by the students. Recognized? The recognition was an ethos, an obviousness of inobviousness in the student psyches. We climbed and exercised together, ploddingly, patiently, puzzledly. The topic was the simplest zone of being, the things of physics.<sup>4</sup> Later I was to shift into teaching philosophy and the topic was, not the self-energy of the electron (recognized as quite beyond a first year course), but the self-energy of the students. The ethos was, and remains, brutally self-offensive. The cultural task was, and is, quite beyond the reach of effective symbolization: but symbolization has a place in the rescue mission.<sup>5</sup>

The larger hope is that the third stage of meaning shall lift the human community into an integrity of unknowing that was a dominant presence in

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was a more popular book, whose title escapes me at present. You may wonder why I add these references at this early stage in our struggle. It is part of good pedagogy to add visionary reach: "The real apprehension need not be philosophic, scientific, analytic. It can be symbolic, global, synthetic, aesthetic .... Here, I think, is relevant Whitehead's remark that moral education is impossible without the constant vision of greatness." (Lonergan, *Topics in Education*, 102). There is a desperate need, in Lonergan studies, to reach out for such an up-to-date vision in all areas. Chapter 5's possible up-to-dateness is just an illustration.

<sup>4</sup>A context here is Lonergan's comment on the poor teaching of physics that dispenses with symbolism and with understanding: *Topics in Education*, 145.

<sup>5</sup>I think here of a piece of Lonergan's 31<sup>st</sup> place in chapter 20 in *Insight* about a "specialized auxiliary" which I normally relate to the auxiliary that is functional collaboration. But it strikes me now as quite suited to the heuristics of symbolic helps. The text is worth quoting here: "The antecedent willingness of hope has to advance from a generic reinforcement of the pure desire to and adapted and specialized auxiliary ever ready to offset every interference with intellect's unrestricted finality" (726[747]). Does that not apply quite magnificently to the present advancing of metagrams?

pre-alphabetic humans.<sup>6</sup> The little hope herenow is that you might nod, or begin to nod, agreement with me. Like Lonergan at the beginning of *Method in Theology*, I appeal to successful sciences, but from the angle of rescuing words, language. What is the first word of chemistry? It is the periodic table. It sits inside the cover of the first-year text book on chemistry. Even if it is memorized in that first year, the ethos separates the memory from mastery. Second year chemistry is recognized as both more difficult and more comprehensive, fast-paced in its demands, adding further symbolisms, and the pace shifts up in third year in any good department.

I sense, within my present loss-possession, that there is much more to be said to point towards the slowness of the climb beyond any word towards the meaning of the referent or of the teacher. How might I nudge you better towards the mood of Proust or von Karajan, or of strange women like Georg Eliot or George Sand or Kate Chopin? I have been nudging thus since the 1960s by identifying in various ways and contexts the bloody spiral “Towards An Adequate *Weltanschauung*”.<sup>7</sup>

But here-now my nudge takes the definite form of linguistic feedback.<sup>8</sup> Can I tell you what a dream is? You, no doubt, can tell me descriptively. But can you tell me in terms of what it in fact is, as I do tell you, a functioning of physics and chemistry and

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<sup>6</sup>A key context here is the first section of chapter 17 of *Insight*.

<sup>7</sup>The first paper of two written for the International Florida Conference of 1970, on metabotany. It is now the first chapter of the Website book, *The Shaping of the Foundations*. “A slow, if not bloody .... undertaking .... years .... round and up a spiral” (*Insight*, 186[210]). Another website book, *Process: Introducing Themselves to Young (Christian) Minders*, tackles the issue from another angle at the beginning of chapter 2. What I would recommend to you most now, however, is the third chapter of *Lack in the Beingstalk*, titled “Haute Vulgarization”, which spirals round the present title topic. And there is the recent, briefer, more prosaic appeal of “Obstacles to Metaphysical Control”, *Method: Journal of Lonergan Studies* **24** (2006).

<sup>8</sup>The key text here is *Method in Theology* 88, note 34 “At a higher level of linguistic development, the possibility of insight is achieved by linguistic feed-back, by expressing the subjective experience in words and as subjective”. I am not at present emphasizing subjective feedback. The focus is on symbolic complexity. But subjectivity can be added, and is to be added by the cultural ethos fostered by a new envisagement of generalized empirical method.

botany and zoology within humans and animals that has a flexible circle of ranges of recurrence-schemes related to ontogenetics and cosmogenetics? How does that flow of words leave you? Are you content to slide past their displacing power, to remain among those who are “embarrassed continually”?<sup>9</sup> Well, not yet fiercely embarrassed perhaps: but the developed science of “The Tower of Able”<sup>10</sup> will eventually locate the position of your sorry assets and mine.<sup>11</sup>

So, I have leaped, in the mention of the Tower, to the task of presenting my metaphysical words, a random and incomplete group. Notice that I use the word *my*. You may find some other heuristic language more helpful.<sup>12</sup> But try mine, to get the flavour of the challenge. No point in repeating here presentations readily available. The most comprehensive presentation is in Cantower 24, which also provides a relevant context. To that I would add the context of chapter 5 of the Web-book *ChrISt in History*, which adds at the beginning the oval diagram, W5, The oval diagram is also presented

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<sup>9</sup>*Insight*, 733[755]. The paragraph ends with the familiar mention of breathlessness and lateness. But I would note that the introduction of metaphysical words make the embarrassment potentially more efficient. Further, there is to be the embarrassment constituted by the implementation of functional specialization, which is to have an altogether more powerful efficiency. But both pushes come under the mood of discomforting nudges, of “forcing attention” (*Insight*, 398[423]), of embarrassing doctrines, “Doctrines that are embarrassing will not be mentioned in polite company” (*Method in Theology*, 299). Efficiency, unity, beauty, are components of a mature metaphysics (recall *Topics in Education* 160, line 16).

<sup>10</sup>The “Tower of Able” is a three dimensional version of what I call the third metaphysical word, the one that points to the cyclic dynamics of functional specialization. It is available in many places since that first bubbling up on the morning of my lecture in Montreal on Lonergan’s Hermeneutics. See *A Brief History of Tongue*, 124 or *Music That Is Soundless*, 130.

<sup>11</sup>Think of a discussion of popular problems in “The Calculus of Variation” (the title of the relevant chapter 4 of *Lack in the Beingstalk. A Giants Causeway*, Axial Publishing, Cape Breton, 2005).

<sup>12</sup>For instance you might develop a symbolism closer to Lonergan’s  $E_{ij}$ ,  $E_{ijk}$ ,  $S_i$ ,  $C_i$ ,  $T_i$ , etc etc.

in the final Cantower, Cantower 41, “Functional Doctrines”, which gives a rather full doctrinal context.

Chapter 4 of *A Brief History of Tongue* also adds a context and helps to raise the important existential question, Is this, somehow, my line of living?, or in terms of - and in the context of - the following sections, What is the Way of my enlightenment? But it would seem to me important that the challenge be acknowledged, even if not taken up: and if it is psychically acknowledged especially through failed serious effort, then there is grounded a shift from schizothymia to a Wayfaring of mystery. Further, the effort is a general illumination: one can discover the difference between formulations, a hidden mental achievement, and formulae, too many of which are inflicted on uncomprehending memories in usual patterns of education.

But I must cut these introductory pointers short. The first year chemist does not get the students to brood overmuch about the periodic table inside the book-cover; indeed, it is sometimes wisely left without comment until one has mucked through experiments, smelled smells, seen colour-changes and Bunsen flames. Our interest here has been in noticing the need for what I call metagrams, a need about which Lonergan is quite precise when he writes of serious control of meaning.<sup>13</sup> We are only taking initial steps regarding comprehensive helpful imaging that supports that strange naming of metaphysics given by Lonergan.<sup>14</sup> Joistings 15, 16, 17 and 18, will enlarge on

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<sup>13</sup>See *The Ontological and Psychological Constitution of Christ*, 151. This is, of course, the key program statement, which I have often quoted. Mesh the challenge with the statement of the next note. How is one to have a comprehensive control of the contemporary world with its jazz and jets and Jacobians without a symbolism that holds everything from logic to lizards to longings together in an integral incarnate neurochemical poise?

<sup>14</sup>“Explicit metaphysics is the conception, affirmation, and implementation of the integral heuristic structure of proportionate being” (*Insight*, 391[416]). The previous note identifies the challenge of reading this with an adequacy of metagramic back-up. I would note that that adequacy relates particularly to the problem of implementation, which functionality differentiates towards efficiency. Implementation is a regular problematic topic in *Insight*: e.g. . I would hope that it be included in a later revision of the index. Here are some entries: 229[254], 234[259], 236[261], 238[263], 391[416], 493[517], 507[530], 521[544], 524[547], 685[708],

the topic in further helpful ways, ways that oddly parallel problems of the corresponding chapters in *Insight*.

So much for introducing the task of lifting the challenge of metaphysics, or methodology, into scientific respectability. Why the added contexts of the next three sections? Certainly, they are contextual nudgings. But they are more: they are appeals for collaboration, or different aspects of my single broad appeal. You get the sense of that appeal especially from the recent book *Lack in the Beingstalk*. Chapter three there relates to the problem of popularization and ends with suggestions that need to be followed up, about the character<sup>15</sup> of ex-plane-ing, where that odd word points to the dynamics of conveying inspiration from science to street, a huge educational and cultural topic. Chapter 4 gives an optimism of the gradual salvific removal of theology from commonsense talk, which depends on the emergence of those who seek enlightenment in a fully kataphatic mode. The issue, raised by the final section here, is the genetics of an ongoing genesis of adequate global self-knowledge.<sup>16</sup> And perhaps these sections and chapters point to the stuff of good graduate degrees: but they certainly point to the good and excellent life of an exponential growing of minding, till death do us start.

You shall also notice, if you peruse the lists in Cantower 24 in your wish to identify and brood over my suggested metaphysical words, that the following two sections relate to two unwritten Cantowers, Cantower 53, “The International Search for Enlightenment” and Cantower 54, “Quantumelectrodynamics, Pedagogy,

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726[748]. There are, of course, quite a number of less direct references to the problem of getting a verified metasystem into operation.

<sup>15</sup>Think of *character* existentially here, the character that is speaking and the character that is listening, and fantasize a new ethos. This is, of course related to the push in Trinitarian theology that is grounded in the four basic questions: see the Introduction to *Music That Is Soundless*.

<sup>16</sup>Mesh two sections in *Insight*: “The Genesis of Adequate Self-Knowledge”(chapter 17, section 1.2) and section 5 of chapter 20, where the word *collaboration* occurs 29 times.

Popularization". Let us begin with a few comments on the drive of Cantower 54, now, I would hope, to be the writing drive of someone among you.

## 2. Popularization

Why the odd title? My intention was to take as my starting point a single magnificent effort of Richard Feynman: *QED: The Strange Theory of Light and Matter*.<sup>17</sup> The study could not but be lengthy: now I wish only, as in these three final sections, to draw attention to the challenge, one that is present in all zones of inquiry and teaching.<sup>18</sup>

Popularization is related differently (a) to teaching and (b) to the genesis of a cultural ethos that is predominantly post-X, where the post-X in the present case is post-systematic.

First, a pause over (a). How does this popular book of Feynman relate to his theoretic efforts in the same area?<sup>19</sup> The evidence is that Feynman did not know the answer to that question, no more than do other popularizers or good teachers. So there is a complex problem of plumbing the meaning of "relate" in this question, a problem that calls for the evolution both of new types of consciousness-differentiation and new symbolic controls of expression.

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<sup>17</sup>Princeton University Press, 1985.

<sup>18</sup>There are symbolizations to be developed within the dynamics of functional specialization, but they would only distract here. For instance, disciplines converge, slope, in the specialties toward a common dialectic, and diverge towards streets and classrooms etc through foundational mediations. Cantower 14 gives a context for symbolizations in relation to districts and other social structures. The August (14-18) 2006 Conference in University of British Columbia, "The Cultural Problem of First Year University Texts" aims at revealing this dynamics.

<sup>19</sup>For instance, one would consider, as the theoretic companion volume to the work noted at note 17, Feynman's *Quantum Mechanics and Path Integrals*, McGraw Hill, 1965. It is a brilliant novel presentation of quantum electrodynamics, given as a graduate course at Princeton, edited with the help of A.R.Hibbs.

It is worthwhile to note in passing the connection of this problem to the *Opera Omnia* of Lonergan. In what way, for example, do his lectures on logic or on education resemble these lectures of Feynman? And here, of course, we are back to our initial problem of ethos, primarily here the ethos of reception. Feynman's heavy book exists, a cultural discomfort. But what of Lonergan's serious thinking on education? What, indeed, of his serious thinking about insight, about metaphysics?!

So, I would suggest, in continuity with the main drive of four decades of what some would consider obscurantist writing, that problems of (a) and (b) are problems of overlapping contexts that call for refined novelties of self-appropriation. (a) and (b) merge in the incarnate character of the good teacher, but the audience must recognize the doctrinal and introductory nature of the teaching. Are we not "come about" here to the key task named by this essay? There is new wine in Lonergan's work: it "cannot be poured into the old bottles of established modes of expression."<sup>20</sup>

But did you pause over the deceptive rhetorical question, "are we not"?

Pause, then and poise: for we are not. Unless you have been grappling with this for some time. The ethos of your surrounding culture, Lonerganesque or larger, invites you to settle for patterns of thinking and talking that allow you to "compare and contrast"<sup>21</sup> and comfortably absorb Lonergan's flight from axial times, that allow you

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<sup>20</sup>*Insight*, 572-3[595].

<sup>21</sup>A critical assessment of the regular business of comparing etc is a complex task of advertizing to different functional tasks. Roughly, such work belongs within the eighth specialty, or its output within culture. The Ovalteam work (see note 40 below) is within the best available metascientific perspective, and this is true even within dialectic, where some people would seem to locate the comparison etc. *Comparison* there (*Method in Theology*, 250) is quite a different business. But I have written abundantly on that in the SOFDAWARES and Quodlibets. Finally, I would note Lonergan's cautionary comments. First, "An idealist never means what an empiricist means, and a realist never means what either of them means." (*Method in Theology*, 239). Secondly, there is the orientation of apologetics: "The apologist's task is to aid others in integration God's gift with the rest of their lives." (*Method in Theology*, 123); "if you wish to be of service, .... you try to effect a conversion in others rather than to prove them wrong." (Lonergan, *The Ontological and Psychological Constitution of Christ*, 23). The primary relevant

into “a philosophic viewpoint that is solidly reliable and, after all, sufficiently enlightened.”<sup>22</sup>

It does not help of course, that in Lonergan’s case, the dominant expression of his meaning was pressed upon him by his culture, his solitude, his desire to make popular an acknowledgment of realities of self-neglect, his regular audience’s desire to be “in on” self-attention in various subtle modes of self-neglect, so that his Opera emerged in “the type of expression that was far from providing a sure index to the level of meaning, originally was an impediment which the writer’s thought could not shake off and now easily can become a misleading sign-post for the unwary interpreter.”<sup>23</sup>

### 3. Enlightenment

The international search for enlightenment? “Here Comes Everybody.”<sup>24</sup> But, at least at present, there seem to be shocking few who have the bent towards **being explanatorily**, towards that strange come-about that invites the cosmos, heartheld, to vanish into a dance of supporting symbols.<sup>25</sup> You must assess your possibilities and

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conversions would seem to be theoretic and intellectual. So, history replaces the Whitson challenge of the convergence of religions with the gentler global move towards positioned *theoria*. This march of time shall, of course, leave a lot of the standard comparables quite behind, even in spite of “their commonsense contributions to our self-knowledge” (*Method in Theology*, 261).

<sup>22</sup>*Insight*, 417[442]. This contrast with what I call the Tomega Principle expressed at the beginning of that paragraph, where is an exigence within any serious thinker to embrace the universe. That exigence is mad operative by the cycling and symbolisms of functional specialization.

<sup>23</sup>*Insight*, 573[595].

<sup>24</sup>A Joycean phrase HCE, complemented by the ladies ALP. There is a book lurking here on the everybody call to enlightenment of a new order of leisure. On leisure, see the index to *For A New Political Economy*.

<sup>25</sup>Again, a huge topic related to advances beyond the sketchings of Cantower 9. One does not “come about” without e.g. the help of the self imaged symbolically as patterned chemicals,

probabilities in that regard. The main handicap, as I mentioned already, is the failure of education in general to cultivate serious understanding, and this failure can occur even in the lower and simpler sciences. Have you the time, the energy, the madness e.g. to take the road I have sketched in Cantowers 27-31, a return to reading *Insight* first five chapters, but now with the help of Feynman's first five chapters? If not, find your own Way, with Dogen<sup>26</sup> or with Theresa of Liseaux, Theresa of Avila, Theresa of India.<sup>27</sup> But you may have sensed by now the crucial need for serious integral understanding and so you may at least "come about", in your own proportionate way, to nudge the next generation to take seriously a commitment to a God who is the pinnacle of cherished *theoria*, an "embrace [of] the universe in a single view"<sup>28</sup> that has its molecular echo in the mind of Jesus.

Did you notice this last facet of cosmic emergence as you read previously in *Insight* (520[544]) the so-conventional expression of history's heart, "the universe can bring forth its own unity in the concentrated form of a single intelligent view"?<sup>29</sup> Or does it startle you as a reading of *Insight* within that strange chapter 16 and within its paragraphed summary that pushes you up to identify the finest project, "spiritual intelligibility is comprehensive"?<sup>30</sup> And does this throw you back to the 'may' in "may

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and of course this includes the imaging of the Incarnate Word: Windhover and Immortal Diamond take on a new cosmochemical splendour and "Christ and his mother and all his hallows" become "lovely in eyes not his / To the Father through the features of men's faces".

<sup>26</sup>*Music that is Soundless*, 123-134, places Dogen, and in general anaphatic contemplative traditions, in the kataphatic context.

<sup>27</sup>Joistings 4, "Personality Types" reflects on such different orientations as those of Theresa of Avila, Teresa of Liseaux, Theresa of India.

<sup>28</sup>*Insight*, 417[442].

<sup>29</sup>*Insight*, 520[544].

<sup>30</sup>A broader context may be had here from the general orientation of the book ChrISt in History, with its frontispiece bow to Origin, its drive towards a new perspective on research,

have sensed”, turning it into a mayday call? In the longer cycle of axial decline “the social situation deteriorates cumulatively,”<sup>31</sup> so that, “never has adequately differentiated consciousness been more difficult to achieve. Never has the need to speak effectively to undifferentiated consciousness been greater.”<sup>32</sup>

“Once this is grasped, it can surely come as no surprise that very few ‘exist,’ that very few have learned that ‘the real’ or the ‘really real’ is what becomes known under the name being through the mediation of concepts and judgments, that very few have come through a kind of dark night of the senses so purified as to surrender themselves wholeheartedly, effectively, and perseveringly to the intelligible and true good.”<sup>33</sup>

#### 4. Theology’s Systems and Their Interplay

My metagrammic effort or yours can only be a suffering beginning, finding humble satisfying ways.<sup>34</sup> So, one turns towards meeting Archimedes waterworld turning thus away from Namaan’s mood.<sup>35</sup> And one comes about to cast a fresh eye on a previous century of apparent progress in wisdom and grace, to find the children of light lacking a genetics of lightsome symbolism, while the children of the world, for

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scripture studies, and an enlargement of Lonergan’s late definition of generalized empirical method ( *A Third Collection*, 141). It was the tone of the previous *Joistings 13* regarding the word being made fresh.

<sup>31</sup>*Insight*, 229[254].

<sup>32</sup>*Method in Theology*, 99.

<sup>33</sup>Lonergan, *The Psychological and Ontological Constitution of Christ*, University of Toronto Press, 2002, 23.

<sup>34</sup>*Joistings 8* deals with the manner in which functional collaboration meshes with the theology of satisfaction. Add the context of note 5 above.

<sup>35</sup>The story of Naaman from *2 Kings* chapter 5 is familiar. Naaman preferred his local water as curative rather than a bathing in the Jordan.

example, of mathematics, are swept on in a strange love of the invisible.<sup>36</sup> Viewed thus, then, texts on the Calculus of Variation since Husserl wrote his thesis under Weierstrass in the early 1880s.<sup>37</sup> Or check the changes in symbolism of *Journal of Symbolic Logic* between 1900 and 2000. But as one moves up through physics and chemistry symbolization on the level of the conjugates of each higher science become increasingly faulty: complexifications tend to be within lower level symbolizations, badly battered by information theory and reductionism and limiting imaginings of space and time. So, round again to our topic: the massive feebleness of metaphysics', of theology's, symbolization of advanced understanding. Here, above all, there is need for hope-filled fantasy. How is the community of growing enlightenment about God, to symbolize, in terms of the conjugates at the upper level of the first word of metaphysics, that most fruitful ice-hot attainment?<sup>38</sup>

We have at least an initial symbolism of the spiral climb, and its street value, in the three-dimensional tower image, but it needs detailed supplementation to bring out the interplay of systems in that Dark Tower.<sup>39</sup> There is the overall system of spiral ascent to emerge through the focused global baton-exchanging of the Ovalteam.<sup>40</sup>

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<sup>36</sup>The sweeping, of course, is a message of *Insight*, mainly in regard to physics. There is an implicit reference above also to the Christmas liturgy, “ut ad invisibilia amorem rapiamur”, that we may be swept up to the love of invisible things”.

<sup>37</sup>I deal with this at some length in the first section of chapter 4 of *Lack in the Beingstalk*.

<sup>38</sup>Recall note 12 of *Joistings 13*, where we considered, with Seamas Heaney, Yeats' cold heaven where it “seemed as though ice burned and was but more ice”.

<sup>39</sup>Cantower 4 reflects on Robert Browning's “Childe Harold to the Dark Tower Came” in the context of the feminism of Candace Pert and the poetry of Elizabeth Barrett Browning in praise of women. Cantower 5, “Metaphysics THEN” continues the theme, pointing beyond Ken and Zen ways to a future-orientated symbol-sustained perspective.

<sup>40</sup>The strategy of what I call the Ovalteam parallels the seriousness of any collaboration in science, and it shall be the dominant ethos in all zones eventually, when necessities of history's complexifications mother the divisions identified heuristically by Lonergan. Researchers in physics hand on the problematic of new particle-data to the best available

Dominant in that spiraling, luminously operative, is to be the possession by and in the Ovalteam of the best genetic systematics currently available through refinements in the seventh specialty. The mesh of general and special categories are thus to be operatively enriched by relative invariants of all disciplines. So, one can perhaps envisage a methodological genetics of the genetic multidisciplinary systematics: but can you do so, without fresh efforts of symbolic imagination?

Best, perhaps, to leave further nudging<sup>41</sup> on genetic symbolizations till we have, in the *Joistings 15* essay, the context of Lonergan's suggestions in sections 6 and 7 of chapter 15 of *Insight*.

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interpreters etc, and so the cycle cycles efficiently. The cycling does not pause to discuss progress with the flat earth society.

<sup>41</sup>Don't expect detailed nudging. There is a great deal of preliminary work to be done in digesting and making communal an ethos of genetic analysis.[The situation is worse now, and the need greater, than it was forty years ago] Above (at note 18) I mentioned graduate theses. When I went to Oxford in 1965 I had two theses in mind: the one I did and one on the challenge of developing a genetic logic - notice the connection with the end of the previous paragraph. I had been nudged by the work of J. H. Woodger on biological symbolizations e.g. *The Axiomatic Method in Biology*, Cambridge University Press, 1937. See also N.R.Hansen, "E.S.Russell and J.H.Woodger: The failure of two twentieth century opponents of mechanist biology", *Journal of the History of Biology*, 17(1984), 399-428. Lonergan's sketchings in the sections mentioned above are powerful, but his school have not tackle this central zone yet. It is a clear illustration of the need for functional collaboration. Still, a beginning could be made in a few decent doctorate theses. Any takers?