Community Climbing: Toward Functional Collaboration

TERRANCE QUINN
Department of Mathematical Sciences
Middle Tennessee State University
Murfreesboro, Tennessee 37132
terrance.quinn@mtsu.edu

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“In mountaineering terms, Aconcagua is technically an easy mountain if approached from the north, via the normal route. Aconcagua is arguably the highest non-technical mountain in the world, since the northern route does not absolutely require ropes, axes, and pins. Although the effects of altitude are severe (atmospheric pressure is 40% of sea-level at the summit), the use of supplemental oxygen is not required.” ¹

1. Guidebook-Notes from Advanced Climbers

The title of our conference ² is “the human good”; and the welcome page of the Comunidad Latinoamericana de Bernard Lonergan includes “promover la colaboración” ³.

What I wish to talk about today is the possibility of academic (and other) communities working toward improved ways of collaborating, ways that very much “suit” ⁴ the human good. I am

¹ http://www.aussie7summits.com/#/s7-aconcagua/4560902010.
² Segundo Taller Latinoamericano, “El Bien Humano”, 13-14 junio 2013, UIA Ciudad de México
³ http://www.lonerganlat.com.mx/
⁴ The theologian Karl Rahner observed that Lonergan’s discovery “seems ... to be so generic that it actually suits every science” (italics mine) [Karl Rahner, “Some Critical Thoughts on ‘Functional Specialties in Theology’”, in Foundations of Theology (International Lonergan Congress Florida 1970),
referring to a discovery made by Bernard Lonergan in 1965, a solution to a problem that he, as a
“lead climber”, had been struggling with for more than 30 years.\(^5\) As it happens, we are a diverse
group at the conference, with faculty and graduate students from philosophy, theology, education
and the sciences, and some graduate students from mathematics education. I also am told that
some who are attending the conference are only hearing about Bernard Lonergan’s work for the
first time. So, my article will be for a general audience. I ask for the patience of those well
versed in Lonergan’s writings, because I will not be assuming extensive familiarity with
Lonergan’s work. Although, I will offer some detailed references in footnotes of this article.

My main purpose is to draw attention to Lonergan’s 1965 discovery of “functional
specialization”, a discovery relevant to (and “suited”\(^6\) to) collaboration in all disciplines. And so
my hope is that this article will help motivate some to follow up on his breakthrough, within your
own disciplines and areas of interest\(^7\). The follow-up I am thinking of might include, for
example, beginnings toward appreciating the plausibility and feasibility of Lonergan’s discovery,
or even perhaps some steps toward promoting implementation of the solution within your area(s)
of interest. To help in that, I very much recommend the writings of Philip McShane. Most of his
articles and books are now available on his website\(^8\). Throughout, his work includes leads for
beginners’, advanced, and future climbing, up, around, and within, Lonergan’s breakthrough\(^9\).
What, though, was the breakthrough I am talking about? I’ll give a diagram for this in a moment,

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\(^5\) A recent article by Michael Shute gives details on the problem and context leading up to Lonergan’s
Part 1: For What Problem is Functional Collaboration the Solution?”, *Divyadaan: Journal of Philosophy
Specialization”, http://www.philipmcshane.ca/quod-17.pdf; Pierrot Lambert and Philip McShane,
*Bernard Lonergan, His Life and Leading Ideas* (Vancouver, Axial Press, 2010), 76-80; Frederick E.

\(^6\) See note 4.

\(^7\) “Each department has to work out its own specialized criteria, …” Bernard Lonergan, *Insight: A Study
of Human Understanding*, ed. Fred E. Crowe and Robert M. Doran, Vol. 3 of *The Collected Works of

\(^8\) http://www.philipmcshane.ca/.

\(^9\) See, for example, Philip McShane, “FuSe 18 Ways to get into Functional Collaboration”,
and will say more as I go through the article. It is something we (the entire academic community) will learn more about as we go.

Lonergan’s result was first presented in dense summary fashion, in a short 20 page article in 1969. This article later became the 20 page Chapter 5 of his 1970 book *Method in Theology*. While Lonergan’s discovery originally was communicated to theologians, it is in fact, amazingly, a result for all disciplines. As I referred to above, Lonergan’s discovery came after more than thirty years of reflecting on the nature and possibility of progress in theology. As can be seen in his many articles over the years, this concern for progress in theology was part of an inclusive and practical concern for progress in communities and disciplines generally - “the problem of general history which is the real catch”. In *Insight* Ch. 7, Lonergan talks about progress and decline, including the verifiable cumulative effects that he called “the longer cycle of decline”. He goes on to work out various features of such decline, and then points to the need of implementing a “higher viewpoint”. He names the solution to this problem “cosmopolis”, and works out a few generic features of what cosmopolis will need to include. Later, in the fuller context of the 20th chapter of *Insight*, he mentions the need for collaboration at least 60 times, and includes the following statement, both visionary and precise: “The antecedent
willingness of hope has to advance from a generic reinforcement of the pure desire to an adapted and specialized auxiliary ever ready to offset every interference either with intellect’s unrestricted finality or with its essential detachment and disinterestedness. The antecedent willingness of charity has to mount from an affective to an effective determination to discover and to implement in all things the intelligibility and universal order that is God’s concept and choice”18. But, as he mentioned earlier in Ch. 7, “(s)o far from solving (the problem) in this chapter, we do not hope to reach a full solution in this volume”19. More than a decade later, in February 1965, he made his breakthrough to an initial identification of the needed “specialized auxiliary”, “a method, ..., for integrating theology with scholarly and scientific studies ... for promoting good and undoing evil both in the church and in human society generally”20.

Drawing on data of more than two millennia of scholarship, science and theology, Lonergan discerned eight main kinds of question, recurrent, and variously combined. By the same token, he also saw the possibility of a new efficacy in collaboration – new, but “not something altogether new”21. The new efficacy would not “force”22 collaboration into some kind of artificial mold. There is, though, the possibility of inviting investigators and other collaborators to advert to, and take advantage of, normative patterns of collaboration that, to some extent, are visible in “divisions that already exist and are recognized”23.

Conveniently, a pdf file of Lonergan’s “Discovery Page” is available online, at the The Bernard Lonergan Archive24. The original (hardcopy) is being held at the Lonergan Research Institute, in Toronto, Canada25. By contrast with the 1969 article, the Discovery Page provides us with a dynamic image of Lonergan’s nuanced grasp of complex ranges of historical data and

18 CWL3, 747-748.
19 CWL3, 267.
20 Method, 366.
21 CWL3, 266.
22 “First, cosmopolis is not a police force” (CWL3, 263).
23 Method, 136.
24 After registration with the online archive website, go to: 47200D0E060 / A472 V\7\1 - Functional specialties: Breakthrough page, The Bernard Lonergan Archive, http://www.bernardlonergan.com/index.php.
community dynamics. Recently, a Word file of the Discovery Page was made available to me, so I include that immediately below.

The Discovery page, February 1965.

Figure 1. Lonergan’s Discovery Page: Functional Collaboration.
I note here that, for some years, Philip McShane has been developing images and symbolisms for Lonergan’s results, and more\(^\text{26}\). One of McShane’s diagrams for functional collaboration is called “The Tower of Able: Lonergan’s Dream”\(^\text{27}\). For my present article, lacking technology needed for more complex graphics, I give a simplified diagram of the cycle of functional specialties, Figure 2.

**Figure 2. Functional Division of Labor:** The diagram points to a division of labor, eight “functional specialties”, eight “different tasks” (*Method*, 137). Four of these will be “past oriented” (functional

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\(^{27}\) Lambert and McShane, 163.
research, interpretation, history, and dialectics); and the other four will be “future oriented” (functional foundations, doctrines, systematics and communications). “Functional specialization distinguishes and separates successive stages in the process from data to results” (Method, 126). The entire division of labor in the community will be a dynamic unity, progress oriented – “a normative pattern of recurrent and related operations yielding cumulative and progressive results” (Method 4, 5).

Certainly, I don’t mean this as any attempt at compact summary. Although, that the diagram is a simplified version is perhaps just as well. For, Lonergan’s discovery is new for us still. And, by analogy, I am thinking of how we find the rows and columns of a simplified Periodic Table of Chemical Elements conveniently located inside the front cover of a typical high school chemistry text. But, it takes considerable study, including access to data, to begin understanding the complex substructures and groupings of a more complete Periodic Table. In a somewhat similar way, Lonergan’s “Cyclic Table of Collaboration Elements” also will include

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28 It may be worth emphasizing here that “past oriented” is not “history for history’s sake”, but is a present differentiation of consciousness within a leaning forward that is “progress oriented”. Similarly, “future oriented” is not “mere future speculation”, but is a present differentiation of consciousness within a leaning forward that is “progress oriented”. But, these subtleties are best left to empirical “follow-up” with data from disciplines. See notes 7, 8, and 9. For pointers regarding this “progress-oriented lean” of effective collaboration, see the reference from note 9: “(T)here is the task of all of us, but especially of those reaching some formal way towards changing the future, of discovering operatively that serious forward speaking is direct speaking. Otherwise one becomes a sort of a two-way signpost. And I would note that this is true even of a forward-specialty tendency to point back to Lonergan or Lao-tse or Luke’s gospel. A very strange and strenuous business, this functional forwardness.” Philip McShane, “FuSe 18”.

29 Mendeleev’s original discovery of the chemical periodic table was published in 1869, 100 years before Lonergan’s article: Dmitrii Mendeleev, “On the Relationship of the Properties of the Elements to their Atomic Weights,” Zhurnal Russkoe Fiziko-Khimicheskoe Obshchestvo 1 (1869): 60-77. Like Lonergan’s article, it too was quite brief, in fact, less than 20 pages.

30 Recall, too, Lonergan’s advice to his students: “in larger and more complex questions it is impossible to have a suitable phantasm unless the imagination is aided by some sort of diagram. Thus if we want to have a comprehensive grasp of everything in a unified whole, we shall have to construct a diagram in which are symbolically represented all the various elements of the question along with the connections between them”. Bernard Lonergan, The Ontological and Psychological Constitution of Christ, Vol. 7 of The Collected Works of Bernard Lonergan (Toronto, University of Toronto Press, 2002), 151.

31 It may help to have a look at some decent undergraduate chemistry textbook. It can be a humbling experience, but also inviting, to realize that the complex orderings of chemical equations, names, and images of laboratory apparatus, are about real properties and real things. And yet, even the most comprehensive 1000 page graduate text touches on only a small portion of known chemical reality, let alone the advancing front lines of 21st century biochemistry.
complex layerings and groupings, ultimately will be far more complex than the Chemical Periodic Table, and will include, for example, developing genera and species of collaboration\(^\text{32}\).

**Progress is Good**

I have been talking about progress and decline. But, does not talk of progress and decline beg the question: What are *progress* and *decline*? One way to talk about progress is to begin with description and appeal to common word usage. So, we could say that “progress” is when things get “better”; or, when the way that we are with each other improves in some way. If we look to the Merriam Webster English dictionary, the word ‘progress’ has origins in Middle English, from Anglo-French *progrés*, from Latin *progressus* advance, from *progredi* to go forth, from *pro-* forward + *gradi* - to go. In the Oxford English Dictionary, for ‘progress’ we find: development\(^\text{33}\) towards an improved or more advanced condition; from Latin *progressus*, 'an advance'; from the verb *progredi*, from *pro-* 'forward' + *gradi* 'to walk'. I note too, the connection here to the word ‘gradient’, which often refers to a change in elevation, or to a path on a map by which the level can be most increased, and also traces back to ‘to walk’. In a descriptive way, then, we can say that “progress” is some kind of change for the better. But, the good “is always concrete”. “Hence, if one attempts to define the good, one runs the risk of misleading one’s readers”\(^\text{34}\). And, what of the “changes” in the good that we call “progress”?

Whatever *progress* is, it’s pretty evident that different people can have quite different notions about it. There are, for example, now standard views about urban and city planning in N. America, views that were strongly rejected by Jane Jacobs (1916 – 2006)\(^\text{35}\). Jane Jacobs is no longer with us. But North American suburbs, highways and shopping malls continue to

\(^{32}\) Differentiations will be within a generic matrix \(C_{ij}\), where \(i, j = 1, 2, \ldots, 9\). See, Philip McShane, *A Brief History of Tongue – From Big Bang to Coloured Wholes* (Halifax, Axial Press: 1998), 108.

\(^{33}\) Italics mine.

\(^{34}\) *Method*, 27, for both quotations. Later, Lonergan provides a “scheme” of 18 terms that “regard (1) individuals in their potentialities and actuations, (2) cooperating groups, and (3) ends” (“The Structure of the Human Good”, *Method*, Sec. 2.6, 47, 48). Is the scheme presented verifiable? Will functional collaboration be an effective implementation of the scheme? These are advanced questions, and would be part of empirical follow-up to the invitation of this article.

metastasize across the N. American continent. In contemporary biology we find various schools of thought on biological and human development. For example, in “developmental systems biology” we find an emphasis on non-verifiable mathematical modeling and computer simulation. Then, organic development of all kinds is considered to be “analogous to a program, a sequence of prescribed events following a temporal order toward a goal. A set of coded instructions … . Most questions about developmental information relate to its organization, storage, and use as macromolecular tapes.” However, if we look to Lonergan, we find a remarkably different (opposing) and verifiable heuristic, not only of organic development of lower organisms, but development of the whole human being – a physical; chemical; botanical; zoological; intellectual, image-able “layered” (aggreformic) organism.

If we look to our schools, there too, we find examples of differences in notions of development. The now-typical mathematics textbook has topics presented in ways that are intended to be “logically rigorous”. The prevailing pattern of presentation begins with “general concepts” and “general definitions”; then pushes forward with symbolic techniques and “derivations” of special cases; and only ends with “applications” and other examples. Within sub-sections for Problems and Exercises, we find the same pattern: symbolic techniques dominate exercise sets; and when there are applications, they are generally given toward the end of the Problems and Exercises. However, this now-standard approach is in implicit opposition to how mathematical discoveries are reached by mathematicians. Mathematicians start with “applications” or particular problems; and only later are there breakthroughs to general results. Again, that now-standard textbook approach also is in opposition to what many successful teachers find they need to do in order to help their students. For instance, there was the famous teacher W. W. Sawyer, who wrote: “(The) aim (of a course) may be to (have) every axiom

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37 Sec. 15.7, CWL3. Philip McShane invented the name “aggreformic”. See Philip McShane, http://www.philipmcshane.ca/.
38 At this time, a dominant approach to writing mathematics textbooks is rooted in “constructivism” (Lev Vygotsky), a philosophy of learning that, like the “conceptualism” of Duns Scotus, speaks of understanding with priority given to concepts. Thomas Aquinas, though, spoke very differently about understanding, with concepts coming from understanding. “In the present state of life in which the soul is united to a passible body, it is impossible for our intellect to understand anything actually, except by turning to the phantasms.” St. Thomas Aquinas, *Summa Theologica*, Ia, Q. 84, a. 7.
stated, every conclusion drawn from flawless logic, the whole syllabus covered. That sounds excellent, but in practice the result is often that the class does not have the faintest idea of what is going on. … On the other hand, … students (may be lead to) collect material, work problems, observe regularities, frame hypotheses, discover and prove theorems for themselves. The work may not proceed so quickly … but the student knows what (they) are doing, … has had the experience of discovering mathematics, … no longer thinks of mathematics as static dogma learned by rote, …. (is) ready to explore further on (their) own” 39.

I am not trying to give an historical survey of ideas on development and progress. I am just trying to draw attention to the more or less well known (but not often adverted to) fact that there are many perspectives on development and progress, many of which, in various ways, are not compatible; and, that more is true about this. For, whether we look to our cities, our various academic disciplines, our high schools, our own lives, the lives of our families and friends, we find that, whether adverted to or not, our various orientations and views about development and progress are not “just academic”. Our notions of progress shape our questions, impact our daily lives, and in basic ways determine what we learn and how we grow, or not.

Would it not be helpful, crucial even, for at least some scholars to pause over, and attend to such basic notions, in a deliberate and explicit way? What are one’s otherwise hidden or “latent”40, but in fact operative, criteria for all that we go on to call progress, and all that we judge to be decline? And, when we call one thing progress, and another thing decline, does not this depend on knowledge of the things that we are judging, and evaluating? If only to avoid adding to the confusion, would it not be helpful, strategic even, to enquire into how and what we know; how and what we discern and choose; our criteria not only for progress and decline, but for what it is that we call progress and decline? In other words, crucial to progress is a type of fundamental enquiry that will be a growth in self-knowledge, and of one-self in community.

40 CWL3, 422.
At this time in history, this kind of growth in self-knowledge is not promoted. Even “when subjected to higher education, one does well to attain some clear and precise understanding of one’s own activities in this or that field of specialization. Few indeed attempt the philosophic task of coming to grasp the similarities and the differences of the many ways in which basic operations are variously modified and variously combined to yield the appropriate procedures in different fields. And of the few that attempt this, even fewer succeed in mapping the interior life of the ‘black box’ in which the input is sensation and the output is talk.”

Note that “sensation” and “talk”, *undeniably*, are partly biological events, in the image-capable thinking and choosing human organism. But, consensus on heuristics for the human organism has not yet been attained by either the scientific or philosophic communities. A “few” have reached some descriptive understanding of “dynamics of knowing” and “dynamics of doing”, or of “activities in this or that field”. But, explanatory understanding of these “multi-layered” aggregates of events will be a future achievement. There is the future scientific, philosophical and theological task to reach toward explanation, not only of things, but of the explainers, us, …, things who talk about things.

This is all very much too brief, just “Climbing Club post-card notes” about possible expeditions. But, perhaps I’ve said enough to give some impression of the fact that the human sciences, philosophy and theology will benefit by taking up essential results from the lower sciences; and, that the needed “control of meaning” alluded to in the quotation above will include a growth in self-knowledge that, not only will be progress in itself, but will include

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41 Bernard Lonergan, *A Third Collection, Papers by Bernard Lonergan*, Ed. by Fred Crowe (New York/Mahwah: Paulist Press, 1985), 197. See also, CWL3, Sec. 16.3.4, “The Significance of Metaphysical Equivalence”, which includes a “control of meaning” (CWL3, 530).

42 See, though, Ch. 15 of *Insight*, CWL3.

43 See last sentence of quotation from note 41.

44 I take this opportunity to point to related questions in Christian theology that are part of the challenge of reaching toward “the level of our times” [(Frederick E. Crowe, S.J., *Lonergan* (St. John’s Abbey, Collegeville, MN: The Liturgical Press, 1992), note 1, p. 76)]. For instance, what was the biophysics of the crucifixion? Or, in the New Testament, we read: “Jesus said: … .” But, what was/are genera of (aggreformic) human speech, and what was/is the neuroscience of the divine organism, the Word-Man? And so on. This is not reducing theology to empirical science. But, without the scientific component, does not our theological understanding of Jesus (“like us in all ways except sin”) remain limited to description?

45 *Third Collection*, 197.
progress in understanding progress. This growth, then, will include progress in understanding what we are doing when we are knowing and doing; and certainly will need to include becoming increasingly (self-) luminous about the interior life of the biochemical image-capable intellectual organism that each of us is. These are pointings, then, to a needed “generalized empirical method” defined by Lonergan in *Third Collection*: “Generalized empirical method operates on a combination of both the data of sense and the data of consciousness: it does not treat of objects without taking into account the corresponding operations of the subject; it does not treat of the subject’s operations without taking into account the corresponding objects.” 46

I have been pointing to the need of growth in self-knowledge. Lonergan reached remote heights in self-knowledge and control of meaning. But, it is also evident that his achievement has yet to have had significant impact in world academic communities. There are, no doubt, many reasons for this 47. One of them may be described by comparing with the 19th century announcement of Mendeleev’s Chemical Periodic Table. Leading up to his discovery was a century of accumulating results in chemical analysis. The pressure was on, to reach a unified view. Then, within ten years of Mendeleev’s announcement, the Periodic Table of Chemical Elements had become the standard model for all of chemistry. However, in the sciences, philosophy and theology, we have not yet seen community-wide pressure to reach a unified view of the elements of progress - neither within the disciplines, nor as mutually related. However, imagine what might be possible if there were at least preliminary consensus on the need of the kind of foundational reflection that I pointed to above?

Imagine, if you will, a sub-group of scholars, each willing and able to enter into foundational reflection, sharing results with each other, a group-effort that might, therefore, as a group, be more effective within the community. This group would work to bring out differences, as well as affinities and compatibilities; and at a given time, such a group would be reaching toward some kind of “best-possible” (provisional) consensus (even if in some instances it might

46 *Third Collection*, 141.
47 Surely, one reason must be that his work has not been communicated within a community striving toward functional collaboration. In that sense, if the community is not collaborating effectively, even “100 Lonergans” might have little effect on “reversing” the large number statistics of present “general bias”. This will make more sense by the end of the article.
be a case of “we agree to disagree”\textsuperscript{48}). But, if for a time differences cannot be reconciled, there would be the shared effort to make the basis of those differences explicit. Indeed, without such an effort toward being self-luminous to one-self and to the group, differences, affinities and compatibilities in notions about progress will necessarily continue to circulate in hidden ways. In particular, under these circumstances, even when intentions are good, actions quite regularly can be at cross-purposes.

We have, then, various signs of a needed\textit{specialized} kind of work within the academic community. Remember, again, that my short article is an invitation only, a pointing to mappings of climbing routes, routes in fact already mapped out with precision by the genius Lonergan. See, for instance, p. 250 of\textit{Method in Theology}, where Lonergan gives nuanced, exact and visionary heuristics of the “structure”\textsuperscript{49} of the specialized task that he called\textit{functional dialectics}. See, in particular, lines 18 – 33, that include: “(R)esults … will not be uniform. But the source of this lack of uniformity will be brought out into the open …”\textsuperscript{50} Whatever else might be true about Lonergan’s Dream of functional specialties, is it not becoming evident from history that a specialized work like that described on p. 250 of\textit{Method in Theology} will meet a pressing need?

What, though, of the other seven functional specialties? In Figure 2, adjacent to the “past oriented” “functional dialectics”, we see “future oriented” “functional foundations”. Again, I only point to issues, rather than offer any detailed discussion. These are major problems for the community to work out. So, for the moment, I’ll just give a few examples that come to mind. I am partly thinking of those shifts in one’s very position and orientation, shifts that affect how one moves forward - in one’s life, in one’s discipline, in one’s community. One may begin to

\textsuperscript{48} Although, in future, I imagine that, within the professional community, a base-line of “basic positions” (CWL3, 413) will be sorted out. Adult growth will be normal. Within the sub-group, foundational differences, then, won’t so often be “disagreement”, as maturing views assenting to, aspiring to, and contemplative about, remote “differences” that are the views of elders. I am reminded of a recent interview of a Canadian-American comedian, light-heartedly revealing the comedian’s awareness of his own growth. Interviewer: “What will your next project be?” Comedian: “It’s going to be the most important complex work of my life so far.” Interviewer: “What is it going to be?” Comedian: “I don’t know yet.”

\textsuperscript{49}\textit{Method in Theology}, 249.

\textsuperscript{50}\textit{Method in Theology}, 250. See, also, Philip McShane, “Posthumous 7 Lonergan’s 1833 Overture”, http://www.philipmcshane.ca/posthumous-07.pdf.
hear secular music as sacred, or sacred music as so beautifully secular. In a somewhat similar way, there are Chinese dancers of the Shen Yun, for some of whom dance has become a union of “divine being” with “the overall manner of a dancer’s style, and the meaning behind his or her movements”\textsuperscript{51}. Or, one may fall in love with someone. And, there are those who, in some sense, fall in love with all of humanity. There are those who “fall in love” with science. Or, working within mathematics, one may climb toward higher group theories, homology and other algebraic structures. Within a generalized empirical method, some may win through to more adequate and verifiable heuristics for things, for “layered” capacities-to-perform. And, for us, there are capacities to sense, to imagine, to compose and enjoy music, to love one another, to understand higher group theories, to understand biochemistry and neuroscience, and even to reach subtly verifiable analogy within a Trinitarian theology\textsuperscript{52}. Or, again, a silent seed of an idea can eventually change the direction of one’s life. One may begin to think newly about one’s beloved, and what might be possible. In science, one may break through to a new basis, and be able to envision new possibilities, or perhaps tune in to data previously not attended to. One’s theology may simultaneously become more personal and more explanatory. These are just a few possibilities. The fact is, fundamental shifts occur, basic changes in one’s orientation, intrinsic to going forward in new ways toward new results.

Like for the specialized work of functional dialectics, might it not be helpful (again, crucial even) for scholars to attend to these real dynamics of human progress? In our lives and academic communities, can we avoid new problems, new work, new tasks, new communications, and so on? One may try to limit oneself to old ways. But, eventually, for some at least, fundamental shifts occur; and new ways become possible. So, there is a task here that goes beyond the achievement of functional dialectics. For, there is the work of trying to be luminous about the reach for new, improved and explicit heuristics, of progress itself, in the most

\textsuperscript{51} http://www.shenyunperformingarts.org/.

\textsuperscript{52} “We can only conclude, therefore, that our knowledge of God in this life is analogical, that is to say, through an understanding of created realities we attain a knowledge of God, as it were by similitude, according to the steps of affirmation, negation and eminence” [Bernard Lonergan, The Ontological and Psychological Constitution of Christ, Vol. 7 of The Collected Works of Bernard Lonergan, tr. by Michael G. Shields (Toronto: University of Toronto Press, 2002), 85, 153].
up-to-date explanatory terms. What is the alternative? If we do not take on this task, do we not more or less guarantee the otherwise spontaneous infusion of new blind spots into the community? Like functional dialectics, it would seem that some kind of (future oriented) functional foundations also will be crucial to progress.

What of the other six functional specialties envisioned by Lonergan, namely, research, interpretation, history; and doctrines, systematics and communications? It might help to look to two questions: A. Is there evidence for the existence of the other six tasks described by Lonergan?; and B. Is there evidence that a functional division of labor will be not only possible, but also advantageous?

Certainly, for A., data was “available” to Lonergan, where, within adequate empirical method, “available data” includes “data of consciousness”. Lonergan, though, was a millennium-class thinker. Part of the challenge for the rest of us is that we do not have comparable data available to us, let alone the control of meaning that Lonergan attained in his high altitude ascent to self-knowledge. The data to which Lonergan adverted was from scholarship, theology, and a grasp of the sciences and economics, up to, and including results into the 20th century. His lead-climb scaling and self-scaling in disciplines was exceptional. What can we do? For us, follow-up climbers, we each at least have some level of familiarity with

53 For preliminary heuristic pointers, see Method, 286-287; and, as McShane has pointed out, we need to add in a (10), for differentiations of consciousness that will be proper to functional collaboration. Philip McShane has provided helpful symbolizations. See, for example, Philip McShane, A Brief History of Tongue – From Big Bang to Coloured Wholes (Halifax, Axial Press: 1998), Chs. 3 and 4; and Prehumous2, “Metagrams and Metaphysics”, http://www.philipmceshane.ca/prehumous-02.pdf.
54 “Generalized empirical method envisages all data” (Third Collection, 140); and so as noted by Fred Lawrence, eventually (generalized empirical method) will simply be adequate “Empirical Method” (Fred Lawrence, “The Ethics of Authenticity and the Human Good”, in: The Importance of Insight: Essays in Honor of Michael Vertin (Toronto: University of Toronto Press, 2007), 131.
55 See notes 54 and 46.
56 See, for example, his brief remarks on commonsense, scientific method, and interpretation, in “Grounds of the Division”, Method in Theology, Sec. 5.3: “The interpreter, however, pursues a different goal.” See then, Sec. 17.3 of Insight, CWL3; and “Interpretation”, Method in Theology, Ch. 7.
57 The English word ‘scale’ has several etymologies, all of which apply in ‘scale’ and ‘self-scale’: For example, weights and measuring; a graduated range of values; ‘to climb’, ‘to drink’. I think, too, of Galileo’s scaling of polished wooden ramps and his climb to the discovery of the “law of falling bodies”; and then Lonergan’s scaling of “ramps of meaning”; his scaling of heuristics for aggreformism (CWL3, Ch. 15); and his climb to the discovery of the “law of collaborating bodies”.

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our own discipline(s). And so we can at least make beginnings in describing differences in types of work with which we are already familiar. This, of course, will involve new challenges and growth in self-attention. But, we may begin, for example, to become increasingly familiar with main question foci -- within the community, and within oneself. In fact, “(t)he other (six) tasks are more precisely focused in the recognisable interests of particular areas of inquiry: legal texts, Biblical interpretation, economic history, ecological policies, the systematics of literary styles, the role of webbing communications in local education”  

And so, in recent years, there has been a growing number of papers and books making preliminary progress describing the eight different foci verifiably (but not yet luminously) present within disciplines.

58 Philip McShane, *A Brief History of Tongue*, 105. The entire chapter 3, “A Rolling Stone Gathers Nomos”, is a rich and detailed introduction to “the plausibility and possibility of this (functional) collaboration” (*A Brief History of Tongue*, 105).


Most recently, there is the work of Sean McNelis, in housing: “Cyclic functional collaboration: a scientific approach to housing”, (Ph.D. Diss., Swinburne University of Technology, Faculty of Life and Social Sciences, The Swinburne Institute for Social Research, 2012), Swinburne Research Bank, http://researchbank.swinburne.edu.au/vital/access/manager/Repository/swin:29430, accessed February 19,
Since in this article I only point to, and invite, follow-up empirical work within one’s discipline(s), let’s now look to question B: Is there evidence that a functional division of labor will be not only possible, but also advantageous? Part of the challenge here is finding data relevant to functional collaboration, when functional collaboration as such is not yet implemented within disciplines. Another difficulty is that some of the advantages that will come with a functional division of labor are, in some ways, nicely available in contemporary physics (and other sciences). But, at this time, education in physics (as well as other sciences, philosophy and theology) does not usually include or promote self-attention; and at the same time, contemporary philosophy and theology students are not often helped toward becoming educated in contemporary physics (or other sciences). But, if we believe that Lonergan might have known what we has talking about, we might be motivated by his advice to “work out the basis for … a third way”, to “appeal to the successful sciences to form a preliminary notion of method” 60.

Whether one is motivated by Lonergan’s advice, or not, our focus here is on progress. And, as it happens, it is common knowledge that, whatever “progress” is, physicists have been making a lot of it. In fact, the physics community has been astonishingly successful over the last four hundred years, climbing with “cumulative and progressive results”61. So, in our thinking about real possibilities of human progress, unless we choose to turn a blind eye to a massive source of data, we can hardly ignore progress in the most elementary science62.

Even if you have not studied physics, the success stories of physics are part of popular culture and imagination, and familiar to many through general education. And, for this article, that will be enough, since I am definitely avoiding details. But, again, this does not mean that I am advocating “popular summary”. I recall, once again, that my article is only a pointing, hopefully an inviting, to work to be done, mountains to climb, views to reach. My immediate


60 Method in Theology, 4.
61 Method, 4, 5.
62 Note that I do not suggest that there are not foundational problems in contemporary physics, or that physics already is collaborating functionally. Problems of extroversion and reductionism, and the need of a new control of meaning, are as present in physics as in all of the sciences, philosophy and theology at this time.
focus is question B. So, at this stage, I take it as to some extent verified, through preliminary description, that there are eight foci within disciplines. Question B is about the possible advantageousness of deliberately promoting a division of labor around these foci. And, as it happens, even with only a popular knowledge of physics, we can find signs of a gradually emerging functional division; and indications of the increasing effectiveness that will be attained when this division is more developed and more luminous.

Within the global physics community of scholars, technicians, teachers, students and administrators, two large zones of expertise are known in popular terms as “experimental physics”, and “theoretical physics”. These zones certainly are not separate from each other. On the contrary, they work closely together. It is, in fact, a division of labor that is taken for granted. The division is not a restriction, as such, on the possible interest of any individual. It is, instead, a division of labor that, over time, the community has spontaneously found to be practical, and even necessary. It is true, that a few especially competent leaders in the field might be as comfortable contributing to the design and workings of a new particle accelerator as they would be working out new mathematical aspects of a standard model. But, that is rare. And the rarity itself of such “double expertise” within physics only highlights the otherwise normal division. For, generally, it is “experimental physicists … (who) have the knowledge and skills needed to handle a cyclotron. (And) it is … theoretical physicists (who) are able to tell what experiments are worth trying and, when they are tried, what is the significance of the results.” This division of labor in the physics community is normal, and as history has continued to show, is highly effective.

Note also, that in physics, the expectation that any one person, team, or even very large group might be able to contribute comprehensive results would simply never arise, in what is now a highly interdisciplinary global enterprise. Instead, the familiar division of labor (one group looking more to data and one group focusing more on theory) conveniently relieves investigators

63 Like for other disciplines, for physics too, there is ample evidence for eight main foci. That would be a study for those familiar with details of contemporary physics.
64 Method, 126.
(as well as very large teams of investigators\textsuperscript{65}) from what would be an obviously impossible task of simultaneously providing complete, detailed, generic and specific results about all significant data, as well as all theoretical implications. In physics, “totalitarian ambitions”\textsuperscript{66} simply don’t arise. Or, if they did, they could not survive the gradients of collaborative expertise already required within the contemporary discipline.

That there are two groupings does not mean that one grouping knows theory and the other doesn’t. In physics, both groupings of investigators are working relative to a shared theory, a standard model. At the same time, the education, expertise and career tracks of experimental and theoretical physicists are remarkably different. As I already mentioned, analysis of present and possible divisions of labor in physics will be future work for the academic community - both for physics and theology. And such an analysis would, for example, need to distinguish the work of explaining anomalous data relative to a present standard model, from the quite differently (future) oriented work of thinking out possible new standard models. In the meantime, though, we can already point to at least two types of past-oriented work – namely, the work of detecting anomalous data; and the work of explaining anomalous data. So, we find that, in descriptive terms, in the physics community, we already see the (pre-) emergence of functional research and functional interpretation, respectively.

The story of physics also points to the fact that method in disciplines can be expected to develop. For instance, you may recall the elementary experiments and mathematics\textsuperscript{67} of Galileo’s work in his studies of “free-fall”\textsuperscript{68}. Among the apparatus he used were inclined wooden ramps, and a water clock (a rather imprecise instrument for measuring time, even in Galileo’s day). Contrast

\textsuperscript{65} See note 69, below.
\textsuperscript{66} Method, 137.
\textsuperscript{67} The geometry and algebra of quadratic equations can be learned by teenagers in high school. Although, having a good teacher helps. See notes 38 and 39.
\textsuperscript{68} I mention this example for various reasons: Certainly, when compared with contemporary work, it helps point to the development of method. At the same time, the mathematics and physics involved in Galileo’s work is generally accessible to high school students, and so can be a convenient example to reflect on - for graduate students in all disciplines. Recall Lonergan’s pedagogical advice from the first two paragraphs of Insight, CWL3, on the need to attend to a series of instances. “(A)taining familiarity with what is meant by (Galileo’s/my insertion) insight” (CWL3, 27) into free-fall would provide one important instance in the (your) series. I note that “series” is another word for “sum”, an “integral” result.
this with present day CERN research groups: Interdisciplinary teams of theoreticians, experimentalists, technicians, and support groups from around the world are in the hundreds, with lead authors of published articles often numbering 40 - 100. The CERN laboratory itself relies on about 2400 full-time employees. Technology for experimental work is constructed on the basis of up-to-date theory; and digitalized data from scattering experiments are accurate to within nine decimal places. Experimental results, questions, puzzles and conjectures relative to the standard model are shared with theoreticians eagerly awaiting such (internal) communications. Moreover, these communications are normally in accord with rigorous communication standards, where details are given on “materials”, “methods”, “data”, “results”, and so on. And a driving force for all of this is a community-wide orientation toward progress.

Within physics, then, we can already see some of the great efficiency in what has become a more or less staged collaboration -- even though, so far, it is fundamentally non-luminous, and as yet only pre-functional.

**Future Expeditions**

Following Lonergan’s pointings, it is possible to begin to see that, yes, within disciplines, the pressures of history are slowly bringing eight focal zones into view. And, there is accumulating evidence that a division of labor around these foci will be greatly effective, as a staged process from data to results. Still, this is all so new, and rather strange, especially when contrasted with long established habits of scholarship in the human sciences, philosophy and theology. So, you may well wonder (especially if this short article is the first time you’ve heard about Lonergan’s discovery): ‘This is all fine and good. But, why is more needed, for physics, or for theology, or for other disciplines? Taking note of this patterning of foci is interesting, but that is interesting enough in itself. There really isn’t more that we need to do.’ But, isn’t saying that, taking a position about progress? In as much as we each strive to identify the basics of our position; and in as much as we also make the mutually enriching effort to come to some explicit

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70 “Functional specialization distinguishes and separates successive stages in the process from data to results” (Method, 126).

71 See note 70.
understanding about each of our positions (in particular, our positions about progress and what we need to do in order to best promote that progress), will we not then be entering into some preliminary version of functional dialectics, such as compactly pointed to in lines 18 – 33 of Method in Theology, p. 250? “(R)esults … will not be uniform. But the source of this lack of uniformity will be brought out into the open …”72

It is true that the pressures of history gradually are bringing the existence and advantageousness of the eight-fold division to our attention. But, it is early days yet. And, for now, we struggle with a lack of control of meaning; the presence of the foci is subtle; they are not yet explicitly adverted to within the community; and, as history shows, non-luminous collaboration generally tends to generate, not progress, but confusion and decline.73 These are not problems that will be resolved within traditional methods of random collaboration, for these problems are features of such methods. And, if it is impossible for any, even very large, teams of physicists to “do it all” in any single project or publication, and if basic divisions of labor have proven crucial to progress in physics, how much more so will strategic principles of collaboration be needed in the now vastly more complex, global, and highly inter-disciplinary human sciences and theology, disciplines that also, in various ways, include physics, chemistry and the life sciences74? In physics, Galileo could not anticipate particle accelerators; a photon counting detector of an earth-orbiting Hubble telescope; or the mathematics of modern geometries. In an analogous way, we cannot anticipate future accelerators in human meaning; “insight detectors” of a community-orbiting telos-cope; or the implemented goal-oriented “grouping-structures” of an eight-fold cycling division of labor. What, though, might we do now, toward such future progress?

One possibility would be to make elementary efforts toward beginning to organ-ize our efforts along the increasingly evident eight-fold organic divisions. Or, as Philip McShane

73 See Sec. 7.8.3, the Longer Cycle (of Decline), CWL3.
74 The foundations of physics, chemistry, the life sciences and theology will coincide. The “Foundations of Physics is to be an omnidisciplinary Foundations”. Philip McShane, Sane Economics and Fusionism (Vancouver: Axial Publishing, 2010), 64. See also Method, 286-287, with functional collaboration to be included as (10) in the list (already implicit in the discussion of functional foundations). See note 53.
suggests, it may be helpful to begin with the question: Does this deserve recycling?\footnote{McShane’s slogan for the 2012 Halifax Lonergan Conference. Moving Lonergan Studies into Functional Talk: Establishing an Effective Legacy. The 2012 International Halifax Lonergan Conference, July 16th to 20\textsuperscript{th}, 2012, Saint Mary’s University, Halifax, Nova Scotia, Canada.} At first, our work will be rough, awkward, no doubt often dispersed in \textit{ad hoc} ways across focal zones, and for the most part, will continue to be descriptive. A gradual movement toward functionality will not reach the whole global community right away. But, we can expect, I think, that before too long, even early descriptive efforts toward implementing an eight-fold division of labor will increasingly reveal the undeniable efficiency (and necessity even) of that very same eight-fold division of labor. Like climbing Mt. Aconcagua, preliminary descriptive ascents toward functionality can, and in basic ways will be, “functionally non-technical”. Although, even then, because of the efficiency of the division of labor, “the effects of altitude” soon will become “severe”\footnote{http://www.aussie7summits.com/#/s7-aconcagua/4560902010}. The need of development toward “explanatory climbing” will follow within that increasing efficiency. The movement toward \textit{explanation} will then be a transition to the “South Face”, to explanatory climbing (that will include, for example, the reach toward explanation of previous “non-explanatory”\footnote{“To avoid confusion and misunderstanding, it will not be amiss to draw attention to the possibility of an explanatory interpretation of a non-explanatory meaning” (CWL3, Sec. 17.3, 610). See also, \textit{Method}, Ch. 7.} efforts). And, as in any serious science, that kind of climbing will be “a journey reserved to only a (relatively) few”\footnote{http://www.planetmountain.com/english/News/shownews1.lasso?l=2&keyid=39023} - supported by the whole community, a core of “elite”\footnote{\textit{Method}, 350-351.} functional climbers.

I will end, then, with a paragraph of hope and prayer: We can begin. For the foreseeable future results will mainly be descriptive. But, that is normal. The rest will come. The rest? It will be rest-ful to be able to work together in increasingly efficient ways. The rest of the academic communities will join in. We can be rest-ful in the knowledge that, even though initial results will be non-luminous, awkward, dispersed across focal zones, as the eight-fold division of labor becomes more established, precision will increase. The pressures to reach empirically grounded explanatory perspectives, within and relative to the new standard model, will emerge quite spontaneously. We will become increasingly (self-) luminous (self-) gradients oriented toward
“cumulative and progressive results”\textsuperscript{80}. Finally, I think of this within my Christian perspective - that we are one with Him, and that He is like us in all ways except sin. Thinking, then, of all of the dynamic senses of the word ‘rest’ mentioned above, I take the invitation from the New Testament partly as a call to growth in the eight-fold unity that we are: “Come to Me, all you that are weary and are carrying heavy burdens, and I will give you rest”\textsuperscript{81}.

\textsuperscript{80} Method, 4, 5.