

## ON INTEGRAL COLLABORATION IN INTEGRAL ECOLOGY

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### 1. Introduction

This paper invites attention to a shift in methodology by which we will be able to resolve the collaboration problem identified in integral ecology. Its implementation will enable us to eventually make ongoing progress in our stewardship of society, ecology, and economics. The methodology is more than a model. Evidence of its emergent structuring is found in actual collaboration, both past and present. This paper shows that ongoing work in integral ecology involves the operative presence of eight fundamentally distinct, historically emergent, groupings of academic tasks. The first four are past-oriented, and the second four are future-oriented. These groupings of tasks were originally identified by Bernard Lonergan (1904–1984) as ‘functional specialties,’ and the methodology as ‘functional specialization.’ For purposes explained in the paper, we also call it ‘integral collaboration.’ Names aside, each of the eight groupings of tasks will eventually become a major subdivision within the academic enterprise. Scholars will identify their focus and communicate results to one or more of the eight groupings, as needed. A prolonged period of transition can be anticipated. In the meantime, we can begin to envisage the eightfold collaboration in its maturity. Among other things, it will be committed to raising the quality of everyday life socially, economically and ecologically.

#### 1.1 *The Collaboration Problem*

In the academy, as well as more broadly, there has been a growing interest in integral ecology, a source document of which is the papal Encyclical *Laudato si'*.<sup>1</sup> Published more than ten years ago, the document includes an observation that clearly remains relevant: “The worldwide ecological movement [as well as movements dedicated to the development of

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<sup>1</sup> Pope Francis, *Laudato si': On Care for Our Common Home*, [https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco\\_20150524\\_enciclica-laudato-si.html](https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html).

alternative economics, ecological economics, and integral ecology have] made considerable progress and [have] led to the establishment of numerous organizations committed to raising awareness of these challenges. Regrettably, many efforts to seek concrete solutions to the environmental [social and economic] have proved ineffective.”<sup>2</sup> Lists of ongoing social, ecological and economic crises are well documented. The problem to which we invite attention is that, despite the work of many groups dedicated to the goals of integral ecology,<sup>3</sup> the status quo remains unchanged.

Whatever else is to be done, a shift in methodology is needed.

Integral ecology already recognizes the need for collaboration that is somehow interdisciplinary, multi-disciplinary, transdisciplinary, and/or holistic.<sup>4</sup> *Laudato si'* itself observes the need to promote, for example, “interdisciplinary research capable of shedding new light on the problem,”<sup>5</sup> a “new and universal solidarity,”<sup>6</sup> a “new synthesis,”<sup>7</sup> both

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<sup>2</sup> Francis, *Laudato si'* §14.

<sup>3</sup> See “Integral Ecology,” November 21, 2025, <https://www.campion.ox.ac.uk/integral-ecology>; “Laudato si' Movement,” Laudato si' Action Platform, 2025, <https://laudatosi'actionplatform.org/about/>; “The Office of Religious Congregations for Integral Ecology,” <https://orcie.org/> accessed November 28, 2025.

<sup>4</sup> The literature is vast. See Matilda Nassar, *Concept: Integral Ecology*, IHD Handbook, Integral Human Development Research (Notre Dame: Kellogg Institute for International Studies, University of Notre Dame, 2025) <https://kellogg.nd.edu/ihd-research-lab-integral-ecology>; Jerzy Gocko, “Ecology and Justice: From Environmental Justice to Integral Ecology of «Laudato si'»,” *Studia Ecologiae et Bioethicae* **22/1** (2024) 1, <https://doi.org/10.21697/seb.5799>; Jesús Sánchez-Camacho and José Luis Villegas Moreno, “Foundations and Implications of the Integral Ecology and Sustainable Development Goals in Catholic University Education,” *Religions* **15/4** (2024) 4, <https://doi.org/10.3390/rel15040480..>

<sup>5</sup> Francis, *Laudato si'* §135.

<sup>6</sup> Francis, *Laudato si'* §14.

<sup>7</sup> Francis, *Laudato si'* §112, 121.

“intergenerational solidarity”<sup>8</sup> and “intragenerational solidarity”<sup>9</sup> and “new models of progress.”<sup>10</sup>

These samples from the Encyclical no doubt identify a few features of the way forward for humanity. But how they can be put into practice is a further question. And, as already noted, so far, there has been no apparent progress in that regard, either in conception or in implementation.

## 1.2 Collaboration in the Academy

To help situate our approach to the problem, we begin with three observations about trends in the literature on academic collaboration:<sup>11</sup> (1)

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<sup>8</sup> Francis, *Laudato si'* §159, 162.

<sup>9</sup> Pope Benedict XVI, *For the Celebration of the World Day of Peace*, [https://www.vatican.va/content/benedict-xvi/en/messages/peace/documents/hf\\_ben-xvi\\_mes\\_20091208\\_xliiii-world-day-peace.html](https://www.vatican.va/content/benedict-xvi/en/messages/peace/documents/hf_ben-xvi_mes_20091208_xliiii-world-day-peace.html).

<sup>10</sup> Francis, *Laudato si'* § 194.

<sup>11</sup> Examples from the current literature include, Sara Venturini et al., “Collaboration and Topic Switches in Science,” *Scientific Reports* **14**/1 (2024) 1258, <https://doi.org/10.1038/s41598-024-51606-6>; Jing Li and Qian Yu, “Scientists’ Disciplinary Characteristics and Collaboration Behaviour under the Convergence Paradigm: A Multilevel Network Perspective,” *Journal of Informetrics* **18**/1 (2024) 101491, <https://doi.org/10.1016/j.joi.2024.101491>; Thomas Boyer-Kassem and Cyrille Imbert, “Explaining Scientific Collaboration: A General Functional Account,” *The British Journal for the Philosophy of Science* **75**/4 (2024): 993–1017, <https://doi.org/10.1086/716837>; Emma R. Zajdela et al., “Dynamics of Social Interaction: Modeling the Genesis of Scientific Collaboration,” *Physical Review Research* **4**/4 (2022) L042001, <https://doi.org/10.1103/PhysRevResearch.4.L042001>; Sarah Harrison et al., “Participatory Modeling for Local and Regional Collaboration on Climate Change Adaptation and Health,” *The Journal of Climate Change and Health* **12** (July 2023) 100235, <https://doi.org/10.1016/j.joclim.2023.100235>; Dunja Šešelja, “Agent-Based Models of Scientific Interaction,” *Philosophy Compass* **17**/7 (2022) e12855, <https://doi.org/10.1111/phc3.12855>; Xiaoling Sun et al., “How We Collaborate: Characterizing, Modeling and Predicting Scientific Collaborations,” *Scientometrics* **104**/1 (2015): 43–60, <https://doi.org/10.1007/s11192-015-1597-3>; M. E. J. Newman, “The Structure of Scientific Collaboration Networks,” *Proceedings of the National Academy of Sciences* **98**/2 (2001): 404–9, <https://doi.org/10.1073/pnas.98.2.404>; Bethany K. Laursen et al., “Improving Philosophical Dialogue Interventions to Better Resolve Problematic Value Pluralism in Collaborative Environmental Science,” *Studies in History and*

Philosophical analysis and models about collaboration tend to be in general terms that are remote to experience in areas in which collaboration occurs. (2) Neither mathematical models (systems theories, networks, and such) nor computer simulations are of actual collaboration. (3) Statistical results based on data obtained from actual collaboration allow for random variation about central trends identified in aggregates. Statistical results therefore regard neither any instance nor any aggregate of instances of collaboration. And, as in all statistical method, there remains a distinct question: what is it that one is counting? On this showing, current trends in the literature invite various prior questions including the following: Drawing on one's experience (not in general terms but in instances), how does collaboration work?

### ***1.3 Eight Main Groupings of Tasks in the Academy***

From century to century, areas of inquiry and application emerge, break off, and merge with other areas. In the last few decades, the multiplication of disciplines and subdisciplines has been increasing. However, for present purposes, it is convenient to use the more general and descriptive name "area." In this paper, then, the referent of the word "area" is prior to definitions and models. It is to whatever any individual group's interests and applications happen to be. Despite differences between areas, it is evident that there is no major academic area that does not in some way impact, rely on or ultimately pertain to all areas of inquiry and application. Moreover, a unity is also found in the fact that all areas are part of our experience.

It turns out that among the vast and changing range of major areas of inquiry and application, there is an identifiable structuring. More precisely, by attending to experience in collaboration, we find eight

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*Philosophy of Science Part A* 87 June (2021): 54–71, <https://doi.org/10.1016/j.shpsa.2021.02.004>; Nils Randrup et al., "Toward a Philosophy of Collaboration," *International Journal of E-Collaboration (IJeC)* 14/2 (2018): 19–36, <https://doi.org/10.4018/IJeC.2018040102>; Andrew Higgins and Alexis Dyschkant, "Interdisciplinary Collaboration in Philosophy," *Metaphilosophy* 45/3 (2014): 372–98, <https://www.jstor.org/stable/24441676>; Sanford D. Eigenbrode et al., "Employing Philosophical Dialogue in Collaborative Science," *BioScience* 57/1 (2007): 55–64, <https://doi.org/10.1641/B570109>.

(*emergent groupings of*) main tasks. Despite current fragmentation, they are mutually dependent, cumulative and, whether adverted to or not, would seem to be essential to progress. This is not to suggest that there is evidence of eight *specific* tasks, but rather eight distinct emergent groupings of focus of inquiry and application. What is also in evidence is that, through historical development, specifics of each of the eight groupings change and develop.

In the late 1960s, in his work on method in theology, Bernard Lonergan identified the eight main groupings of tasks for theology. He called them *functional specialities* and envisaged the possibility of collaboration through *functional specialization*.<sup>12</sup> In *Method in Theology*, with dense expression, Lonergan briefly pointed to the significance of his discovery for the entire academy.<sup>13</sup> Karl Rahner observed that “Lonergan’s theological method seems to me to be *so generic that it really fits every science*.”<sup>14</sup>

Several follow-up works have invited attention to evidence of the eight groupings of tasks in various areas.<sup>15</sup> Over the last several decades, there

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<sup>12</sup> The result was first communicated in Bernard Lonergan, “Functional Specialities in Theology,” *Gregorianum* 50/3 (1969): 485–505, <https://www.jstor.org/stable/23574178?seq=1>. This provided a basis for, Bernard Lonergan, *Method in Theology*, ed. Robert M. Doran and John D. Dadosky, vol. 14, *Collected Works of Bernard Lonergan* (Toronto: University of Toronto Press, 2017) first published in 1971.

<sup>13</sup> See Lonergan, *Method in Theology*, vol. 14, sec. 6, General Categories, 267–269. Also in *Method in Theology*, see from the bottom of p. 335 to the middle of p. 338.

<sup>14</sup> Karl Rahner, “Some Critical Thoughts on ‘Functional Specialities in Theology,’” in *Foundations of Theology. Papers from the International Lonergan Congress 1970*, 1<sup>st</sup> ed., ed. Philip McShane (Notre Dame: Gill and Macmillan Ltd, 1971) 194.

<sup>15</sup> See Terrance Quinn, “On the Operative Presence of Eight Tasks in Economics,” *Method: Journal of Lonergan Studies*, n.s. 13/2 (2022): 1–36; Terrance Quinn, *The (Pre-) Dawning of Functional Specialization in Physics* (Hoboken: World Scientific Publishing Co. Pte. Ltd., 2017), <https://doi.org/10.1142/10423>; Sean McNelis, *Making Progress in Housing: A Framework for Collaborative Research* (Milton Park, Abingdon, Oxfordshire: Routledge, 2014); Bruce Anderson, “The Evident Need for Specialization in Visual Art Studies,” *Journal of Macrodynamical Analysis* 6 (2011): 85–97; Patrick Brown, “Functional Specialization and the Methodical Division of Labour in Legal Studies,” *Method: Journal of Lonergan Studies*, New Series,

have also been groups of scholars interested in Lonergan's writings on functional specialization.<sup>16</sup> However, with few exceptions, discussion has largely remained in the style of traditional scholarship. In any event, in the academy globally, Lonergan's discovery about collaboration remains largely unknown and its implementation a future possibility. To communicate the discovery and establish the possibility of implementation, there remains a need for additional textually based studies in specific areas. This paper contributes to that purpose. It focuses on integral ecology, an initiative that is part of the legacy of Pope Francis' Encyclical, *Laudato si'*.

Why do we choose to look specifically at integral ecology? Whatever else it will be, once implemented, functional specialization will be practical. Integral ecology itself is also intended to be practical. Furthermore, there is already some awareness that there is a methodological problem. For these reasons alone, the time is at hand for Lonergan's discovery to be communicated.

For the present context, instead of saying "functional specialization," we refer to *integral collaboration*; we also introduce the name "Tasks" in place of "functional specialties." The reason for these names is that they are conveniently descriptive.

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2/1 (2011): 45–66; Bruce Anderson, "The Nine Lives of Legal Interpretation," *Journal of Macrodynamical Analysis* 5 (October 2010), <https://journals.library.mun.ca/index.php/jmda/article/view/180>; John Benton, *Shaping the Future of Language Studies* (Vancouver: Axial Publishing, 2008); Philip McShane, "The Importance of Rescuing Insight," in *The Importance of Insight. Essays in Honour of Michael Vertin* (Toronto: University of Toronto Press, 2007), sec. Praxis, 5, pp. 204–206; Bruce Anderson, *'Discovery' in Legal Decision-Making*, 1<sup>st</sup> ed. (Dordrecht: Kluwer International Law, 1996). There are books and essay series by Philip McShane (1932–2020) that give important leads on the need for functional specialization, "Philip McShane," 2023, <https://philipmcshane.org/>. See, for instance, Philip McShane, *ChrISt in History* (Vancouver: Unpublished manuscript, 2006), <https://philipmcshane.org/books-and-manuscripts/> and Philip McShane, *Method in Theology: Revisions and Implementations* (Vancouver: Unpublished manuscript, 2007), <https://philipmcshane.org/books-and-manuscripts/>.

<sup>16</sup> See, e.g., Richard M. Liddy (Founding Editor) and Jonathan R. Heaps, eds., *A New Integration, The Lonergan Review* 14 (South Orange Village: Seton Hall University, 2024).

The suggestion that there are merely eight main groupings of tasks in the academy might be surprising or perhaps seem implausible to some. One objection might be along the line of, "There has been and continues to be an ongoing emergence of countless disciplines." That diversity is acknowledged. It is to one's experience in that expansion to which we invite attention. Others who adhere to methods of analytic philosophy might wonder why we do not begin with definitions and models of, for instance, *progress* and *collaboration*. With that approach, implications might then be compared with those of other definitions and models of progress and collaboration. Indeed, such methods will need to be accounted for. However, our invitation is not to definitions and models but to one's experience in some area. At the same time, of immediate importance are areas that are currently active in the domain of integral ecology.

Again, in recent years, increasing concern and urgency have been directed toward social, geopolitical, ecological and economic issues. However, dialogue on these issues has, by and large, been both fragmentary as well as bogged down in fruitless debate and comparison of speculative definitions and models. There is a practical way to overcome this deadlock. The methodology we have in mind is based on the approach of attending to and describing one's experience of collaboration in instances in some area of expertise.

A preliminary sports analogy with respect to the division of labor underscores the approach. In professional soccer, athletes are comparable in skill and knowledge of the game. In its historical development, however, various field positions with complementary responsibilities have emerged that involve mutual dependency. To be competitive, then, effective collaboration among each of those respective positions executing their assigned responsibility is crucial for team success. An analogous evolution can be detected in the history of intellectual labour.<sup>17</sup> In fact, some aspects of the eight main groupings of tasks can already be observed.

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<sup>17</sup> No matter how one currently conceives of progress and collaboration, there is ongoing history. From the early Church to the Council of Nicaea, something happened. Something also happened in the long climb from Galileo's law of falling bodies to modern quantum field theory, from Scotus' claims through to the invention of constructivism and then on to contemporary views in education, from Galen's medicine to modern physiology and medical science, from early barter, currency and coin to techniques of modern global finance, from the Roman

In physics, for example, spontaneously and under the pressures of history, there has emerged a division of labour between, on the one hand, experimental (which includes observational) physics, and on the other hand, mathematical physics. It is a division of labour that, as is well known, has been enormously fruitful. Broadly, both subgroups in physics are up to date in current theory. But each of the two groups also have their proper focus, not to mention specialized skills, development, education and traditions of publication and communication. And so, for instance, where experimental physics is on the lookout for anomalies and other potentially significant data, whatever else it does,<sup>18</sup> mathematical physics attempts to explain data reported by experimental physics. In a future-oriented mode, some leaders in physics labour to think out viable routes forward.

In theology, there are lists of areas of specialized interest. But there is a recognized distinction between, for instance, historical studies, per se, and hermeneutics. Progress in understanding how the writings of individual authors contributed to particular series in history presupposes and incorporates some grasp of what the authors meant. Whereas, the work of determining what individual authors meant is its own highly non-trivial focus.

In applied philosophies of education, some grasp of possible series of student development is implemented. At the same time, typically, these draw on statistics of time series of prior achievement.

For integral ecology, our hope is that it will become plausible that the needed shift in methodology will be to *integral collaboration*; that is, to collaborating in a manner that takes advantage of mutual dependencies among the eight main groupings of tasks described.

#### ***1.4 Outline of the Paper***

Section 2 provides a brief description of each of the eight emergent groupings of academic tasks. The significance of Table 5.1 will be filled out somewhat, as we go through the paper.

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Empire at its height to its fall, from the Industrial Revolution to the Great Depression, and from the early days of neoclassical economics through to current applications of the modern neoclassical synthesis.

<sup>18</sup> In mathematical physics, there is work that is mainly mathematical and remains at a considerable remove current experimental physics.

The purpose of Section 3 is twofold: It is to help readers make beginnings in discerning (i) the distinctness of each of the eight groupings, and (ii) that all eight are in evidence in *Laudato si'*. To begin to glimpse something of Francis' meaning, we invite engaging with the text in a way that is not standard at this time. In addition to reading and attempting to understand, there is the further possibility of adverting to how we read and understand, in instances. It is not a matter of excluding anything but of broadening one's focus of attention. In this way, part of the challenge of reading Francis' text not only involves understanding his words but also asks that, as much as possible, one also enter into and identify his manner of thought. And so, the type of reading invited requires that, as we work through the Encyclical, we also advert to our own inquiring as we move from sentence to sentence.

At this point in time, the approach to reading just described may sound obscure. Nevertheless, it will provide a means to reach key insights about Francis' meaning.

Where Section 3 focuses on *Laudato si'*, what is also needed are results regarding the entire body of literature in integral ecology. That will involve a major and collaborative undertaking. For now, then, Section 4 is but a preliminary exercise in Foundations for integral ecology.

Section 5.1 gives a partial answer to why, up to now, the status quo has not changed. Section 5.2 begins to envisage *integral collaboration* in integral ecology in its maturity, for which a diagram is provided.

## **2. Preliminary Description of the Eight Main Groupings of Tasks in the Academy**

There are eight emergent groupings referred to as Tasks. Four are past-oriented; four are future-oriented. As named by Lonergan, the past-oriented Tasks are Research, Interpretation, History and Dialectics; and the future-oriented Tasks are Foundations, Doctrines, Systematics, and Communications.

<b>TASKS</b>	<b>DESCRIPTIONS</b>	<b>ORIENTATIONS</b>
<b>Research</b>	Finding relevant data, written or other.	
<b>Interpretation</b>	Reaching the meaning of such data, the meaning of those that produced it.	
<b>History</b>	Figuring out the story, connecting the meaning of the writings and the doings, etc.	
<b>Dialectics</b>	Coming up with the best story and best basic directions.	
<b>Foundations</b>	Expressing the best fundamental (in the sense that they are not tied to any age, time, etc.) directions.	
<b>Doctrines</b>	Relevant basic pragmatic truths, somewhat like the core of national constitutions or of tribal legends.	
<b>Systematics</b>	Drawing correctly and contrafactually on the strategies and discoveries of the past to envisage ranges of time-ordered possibilities.	
<b>Communications</b>	Local collaboration reflection that selects creatively from ranges of possibilities.	

**Table 5.1** The eight Tasks in the academy.<sup>19</sup>

<sup>19</sup> The descriptions are provided in Philip McShane, *Economics for Everyone. Das Jus Kapital*, 3<sup>rd</sup> ed. (Vancouver: Axial Publishing, 2017) 114–15.

Yet, as far as it goes, the heuristics is not complete. Whether adverted to or not, collaboration in the academy rises from and impacts our everyday living. *While there are differences in focus, there is no separation between our everyday living and the academic enterprise.* At the same time, our everyday living is not characterized by eight Tasks.<sup>20</sup> There is the indefinitely broad range of human living, development, and expertise which, generally, is ever in flux. The Tasks will be committed to raising the quality of everyday life socially, economically and ecologically.

### 3. The Eight Tasks are in Evidence in *Laudato si'*

#### 3.1 Observations about the Encyclical in terms of Tasks

*Laudato si'* is for “dialogue with all people about our common home.”<sup>21</sup> Explicitly, then, the Encyclical is not intended exclusively for academics with specialized knowledge. At the same time, because of the breadth, depth and interdisciplinary relevance of the pontiff’s thought, it turns out that all eight Tasks are either latent or to some extent called for in the document.

As is detailed in Section 3.2, Research is evidenced in the Encyclical. While there is no explicit contribution to Interpretation, the need for it is

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<sup>20</sup> Context is provided by Lonergan, *Method in Theology*, 14:329–323. See also “plane of common meanings,” introduced by Philip McShane in the 1980s. It can be found in many of his works. See, for instance, Philip McShane, *Interpretation from A to Z* (Vancouver: Axial Publishing, 2020) 135, <http://www.axialpublishing.com/our-titles.html>. The indefinitely large range of everyday living includes the work of teachers, the labours of students who might eventually be teachers, of students who might eventually contribute to one or more of the eight Tasks, of pastors who give homilies, the work of Indigenous elders, of musicians, artists, dancers, financiers, bankers and investors, of economists and central bankers who provide counsel to governing institutions, of people who labour to survive in today’s economies, of children at play, of adults socializing, of human leisure, of human intimacy, the work of making war, the work of making peace, the work of trying to survive war, and so on. The academy influences everyday living through, for example, the development and deployment of modern technologies for home use and for use in the production and provision of goods and services in the production and supply chains of the world.

<sup>21</sup> Francis, *Laudato si'* §3.

implied wherever the pontiff assumes a grasp of meanings of prior pontiffs, scientists, mathematicians, scholars, saints and others. History is touched on but there is no historical analysis. Dialectic shows up but there are no personal details about sources of meaning.

Progress in Foundations is called for. Doctrines is at work throughout and is dominant in the Encyclical. The need for results from Systematics is conspicuous by its absence. Francis expresses hope that the Encyclical might reach and influence communities of the world.<sup>22</sup> He thus anticipates the need for development in Communications. Although, there is no explicit contribution to that task.

A dominant mood of *Laudato si'* is one of urgency, a point made at least fourteen times. In terms of Tasks, mainly, the Encyclical is future-oriented. A call for the “new” or “renewal” is made seventy-two times. “Truly, much can be done!”<sup>23</sup>

### 3.2 Textual Data from *Laudato si'*

In paragraphs 3–6, Francis recalls statements of four prior pontiffs, John XXIII, Blessed Paul VI, St. John Paul II, and Benedict XVI. In as much as Francis means that the quotations are potentially significant, the selection reveals that he is contributing to Research. However, tacitly, he also claims to have—at least to some extent—understood their meanings. While no details are provided, it is implicit that he has done something in the way of Interpretation.

In paragraph 5, Francis writes: “The destruction of the human environment is extremely serious, not only because God has entrusted the world to us men and women, but because human life is itself a gift which must be defended from various forms of debasement.”<sup>24</sup> In as much as the first part of this sentence refers to destruction that has occurred, Francis edges into Dialectic and is past-oriented. The rest of the sentence, however (“God has entrusted ... forms of debasement.”) is future-oriented. It is a descriptive truth to live by, and as such, Francis is oriented into Doctrines.

Referring to quotations from prior pontiffs, Francis writes: “These statements of the Popes echo the reflections of numerous scientists,

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<sup>22</sup> *Laudato Si'* Action Platform, “*Laudato Si'* Movement,” 15, 214.

<sup>23</sup> Francis, *Laudato si'* §180.

<sup>24</sup> Francis, *Laudato si'* §5.

philosophers, theologians and civic groups, all of which have enriched the Church's thinking on these questions."<sup>25</sup> In the first part of this sentence, some kind of historical analysis across ranges of human achievement is implicit. Not only have individual views been to some extent understood (Interpretation), but by asserting "echo," the statements of the Popes have been linked to reflections of other Popes (History). However, by the word "enrichment," Francis touches on evaluation of the developments being considered and thus edges into Dialectics.

Francis "calls for openness to categories which transcend the language of mathematics and biology and take us to the heart of what it is to be human."<sup>26</sup> Here, we see him calling for, but not contributing to, progress in Foundations. A similar call for progress in Foundations is revealed when Francis states that "[t]he urgent challenge to protect our common home includes a concern to bring the whole human family together to seek a sustainable and integral development, for we know that things can change."<sup>27</sup> In the fourteenth paragraph, Francis again calls for progress in Foundations: "I urgently appeal, then, for a new dialogue about how we are shaping the future of our planet. We need a conversation which includes everyone, since the environmental challenge we are undergoing, and its human roots, concern and affect us all."<sup>28</sup>

Francis returns to a past-oriented focus that contributes to History. As previously quoted, "The worldwide ecological movement has already made considerable progress and led to the establishment of numerous organizations committed to raising awareness of these challenges."<sup>29</sup> In the next sentence, we find another shift in Task: "Regrettably, many efforts to seek concrete solutions to the environmental crisis have proved ineffective, not only because of powerful opposition but also because of a more general lack of interest. Obstructionist attitudes, even on the part of believers, can range from denial of the problem to indifference, nonchalant resignation or blind confidence in technical solutions."<sup>30</sup> This statement is still past-oriented, but it is not merely historical. The inclusion of the word

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<sup>25</sup> Francis, *Laudato si'* §7.

<sup>26</sup> Francis, *Laudato si'* §11.

<sup>27</sup> Francis, *Laudato si'* §13.

<sup>28</sup> Francis, *Laudato si'* §14.

<sup>29</sup> Francis, *Laudato si'* §14.

<sup>30</sup> Francis, *Laudato si'* §14.

“regrettably” shows that Francis has, to some extent, moved into Dialectics.

The following statement potentially is Janus-like: “[B]y itself the market cannot guarantee integral human development and social inclusion.”<sup>31</sup> In as much as Francis is tacitly referring to precedent, the statement might be past-oriented. In as much as he also means that, going forward, “human development and social inclusion” are needed, the statement edges into Doctrines and thus is future-oriented.

Later, Francis writes: “What is needed, in effect, is an agreement on systems of governance for the whole range of so-called ‘global commons.’”<sup>32</sup> The pontiff then uses the words of Benedict XVI to call for a “true world political authority.”<sup>33</sup> Francis then points to the “new importance in the work of developing international strategies which can anticipate serious problems affecting us all.”<sup>34</sup> He also says that “[n]ew forms of cooperation and community organization can be encouraged in order to defend the interests of small producers and preserve local ecosystems from destruction. Truly, much can be done!”<sup>35</sup> All of these statements call for progress in Communications and assume results from Research, Interpretation, History, Dialectics, Foundations, Doctrines and Systematics, and so on.

In other words, line by line, we could continue with a preliminary description of the Encyclical in terms of the eight Tasks. However, since the purpose of this paper is merely to draw attention to the possibility of progress in a new methodology, we leave the massive work of obtaining more complete and nuanced identifications of Tasks that are latent in *Laudato si'* to future interpreters of the Encyclical. Eventually, Interpretation will be explanatory.<sup>36</sup>

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<sup>31</sup> Francis, *Laudato si'* §109.

<sup>32</sup> Francis, *Laudato si'* §174.

<sup>33</sup> Francis, *Laudato si'* §175.

<sup>34</sup> Francis, *Laudato si'* §175.

<sup>35</sup> Francis, *Laudato si'* §180.

<sup>36</sup> Heuristics for the future possibility of explanatory interpretation is provided in Bernard Lonergan, *Insight: A Study of Human Understanding*, 1<sup>st</sup> ed., ed. Frederick E. Crowe and Robert Doran, Collected Works of Bernard Lonergan (Toronto: University of Toronto Press, 1992) 3:609–10.

## 4. The Eightfold Basis of Collaboration in Integral Ecology

### 4.1 Research

Consider the fact that there are places in the world where social, economic or ecological crises have escalated from one year to the next. In what respects do those circumstances deviate from our current view of sustainable living? Might *those particular circumstances* be explained? Might we be able to determine what is happening in those particular societies, ecologies and economies? Recorded successes are also potentially important.<sup>37</sup> Or again, are there potentially significant texts that, for better or worse, or both, seem to warrant further attention. For example, might not *Laudato si'* warrant further attention? According to one scholar, “Pope Francis's encyclical *Laudato si'* is ... a revolutionary text.”<sup>38</sup> Evidently, Research is implicit in at least some of the work being done, or being called for, in integral ecology and will be needed going forward.

### 4.2 Interpretation

Unless we are to limit ourselves to description of potentially significant data, there is a follow-up Task. In Interpretation, we work toward explaining potentially significant data provided by Research. Reviewing data pertaining to particular social, ecological and economic situations, there is not only the need, but also the possibility of (as much as possible) explaining what has been happening in particular societies, economies and ecologies.

The same relationship can be found regarding potentially significant texts (which also are data). For there, too, we find the need and possibility of Interpretation.<sup>39</sup> For example, word by word, what precisely do you think Francis meant? The interpreter's job is highly non-trivial. Minimally, one is called to rely on one's up to date heuristics of emergent types of human expression and meaning. This can be brought to bear on particular texts that, as much as possible, need to be grasped within the context of an author's opera omnia.

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<sup>37</sup> Nassar, *Concept: Integral Ecology*, sec. V.

<sup>38</sup> Gocko, “Ecology and Justice.”

<sup>39</sup> The challenge is on display in modern hermeneutics.

### 4.3 History

As noted previously, there are numerous groups and organizations devoted to the goals of integral ecology. And there is a growing literature. What, precisely, has been happening? What has been going forward, or not? There are, for example, claims about what Francis meant and what he did not mean. Those claims emerge from efforts in Interpretation. Are any of those claims related? Do some interpretations of the Encyclical build on others? Have some of them provided new points of departure? Communities, societies, ecologies and economies also have been changing. There, too, we can ask what has been going forward, or not? With our focus on the literature of integral ecology, the challenge includes identifying sequences of interpretations, whether or not those interpretations are of text or of world situations.

### 4.4 Dialectics

Observe that, in past-oriented work, the Task, History, does not have the final word. Further questions arise. There are those who not only review data, compare interpretations, and organize historical analyses but also who have a view on, for instance, *Laudato si'*. What is the basis of your view? On what experience do you draw upon? What is the potential fruitfulness of your view? In as much as you and other scholars with similar concerns make the effort to detail sources in your own experience, you will be providing each other with data needed for the mutual evaluation of those views.

This is but superficially intimating a fourth focus and grouping of tasks. It includes reaching for a best-to-date evaluation of, for example, *Laudato si'*. Notice that this fourth Task is crucial for the possibility of progress. Without it, as the literature shows, irrespective of linguistic competence and logical analysis, reflection on past and present achievement is effectively trapped in endless opinion and debate.<sup>40</sup>

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<sup>40</sup> A compactly expressed heuristics for Dialectics is given in "Dialectic: The Structure." Lonergan, *Method in Theology*, vol. 14, sec. 10.5, 234–35.

#### 4.5 Foundations

A call for progress in Foundations is in evidence whenever the need for some kind of fundamentally new way forward is recognized. For example: “The bond between humans and the natural world means that we live in an ‘integral ecology,’ and as such, an integrated approach to environmental and social justice is required.”<sup>41</sup> Or, “Current challenges urgently require a change in the lifestyle of people and a transformation in the way they act and think.”<sup>42</sup>

Recognizing the need for a fundamental shift precedes implementation. There is the challenge of sorting out, in detail, what that shift will be, and of initiating it in oneself. For instance, evidenced in one’s own experience what, precisely, does one mean by either a “new lifestyle”<sup>43</sup> or “an integrated approach”<sup>44</sup> In other words, there is the need and possibility of a shift in heuristics, drawn from personal experience. There is also the further challenge of communicating that shift to colleagues.

In broad terms, integral ecology seeks to be social, ecological and economic at once. And so, we can begin to see that, implicitly, the fifth Task will be actuated when, for instance, one makes the effort to identify what one means by the names “social,” “ecological” and “economic.” The meaning called for here is not as conceptual constructs but as a relatively permanent (although always revisable) basis for going forward. It is not a matter of defining terms. It neither constructs speculative models, and nor is mere description sufficient for modern contexts. If you assert that you are committed to promoting “integral ecology,” what do you mean by “ecology,” not to mention “integral ecology”? In brief, what is your current horizon in which representative referents are drawn from one’s experience?

For example, if one cannot advert to at least one instance of one’s own understanding about some particular ecology, then to what does one refer

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<sup>41</sup> Marcelo Sánchez Sorondo and Veerabhadran Ramanathan, “Pursuit of Integral Ecology,” *Science* **352**/6287 (2016) 747, <https://doi.org/10.1126/science.aag0826>.

<sup>42</sup> Sánchez-Camacho and Villegas Moreno, “Foundations and Implications of the Integral Ecology and Sustainable Development Goals in Catholic University Education,” sec. 5.

<sup>43</sup> Francis, *Laudato si’* §16.

<sup>44</sup> Francis, *Laudato si’* §139.

when using the name “ecology”? If one does not have, advert to, and appeal to some such experience, then does not intellectual honesty require that one admit that, for now at least, one’s meaning of “ecological” is merely descriptive? If merely descriptive, then one’s grasp of, for instance, what “wheat” is, is centuries behind today’s understanding in ecology. In other words, there is a need to be in modern contexts. Or again, without experience in understanding particular cases, what does one mean by “mathematics and biology,”<sup>45</sup> “the heart of what it is to be human,”<sup>46</sup> or “economy”?<sup>47</sup>

A problem before us is that we are ecological, but not merely ecological. How can we confidently say, “not merely” ecological? By adverting to our understanding of wheat, say, it is evident that there is nothing in our experience or understanding where a stalk of grain asks questions or gets insights, let alone expresses concern for other wheat. In brief, there is all that is human. Its specifics present an ongoing challenge for, among other things, modern sciences, psychology, cognitional theory and theology.

What we are touching on is the need and possibility of a heuristics of history that can be reached by beginning with description of one’s own experience. In that way, we obtain what potentially can be a helpful symbolism:

$$\{\text{History}\}(T) = \{\text{Ecological; Economical, Cultural, Societal}\}(T).$$

The letter  $T$  stands for time. The angle brackets mean all of this working together in whatever ways that, in fact, occur. The semi-colon indicates “not merely.” Commas are for all actual combinations and confluences of events in economies, cultures and societies, whatever they may be, for better or for worse.

While preliminary and descriptive, the heuristics is verifiable in our experience. It can be filled out and refined as integral ecology makes progress.<sup>48</sup>

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<sup>45</sup> Francis, *Laudato si'* §11.

<sup>46</sup> Francis, *Laudato si'* §11.

<sup>47</sup> Francis, *Laudato si'* §16.

<sup>48</sup> Throughout his works, Lonergan regularly pointed to the need for having up-to-date sources without which, among other things, “there is little chance of a

#### 4.6 Doctrines

“Whether religious or not, everyone can agree that the earth is a shared inheritance, whose fruits are meant to benefit everyone both today and tomorrow.”<sup>49</sup> This statement is neither Research, nor Interpretation, nor History, nor Dialectics, nor Foundations. Notice, also, that the author is future-oriented. Moreover, his heuristics and meanings of, for example, “religious,” “or not [religious],” “everyone,” “agree,” “earth,” “shared,” “inheritance,” “fruit,” “benefit,” “today,” “tomorrow” are presupposed.

This is but one example of the fact that, whether or not articulated, scholars have pragmatic truths and values<sup>50</sup> that are taken as premises for going forward in integral ecology.

#### 4.7 Systematics

Think of the situation where one brings an ailing dog to the vet. How might the vet help? They have, at least to some extent, a heuristics of canine growth, development and pathology. But for the ailing dog, something more is needed. In the effort to figure out what can be done, the vet draws on known successes and failures to treat canine disease. They know something about possibly relevant sequences of recovery and resumption of normal development. The vet also draws on statistics of results of prior treatment options. They then have a grasp of sequences of

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broadened basis of dialogue with modern searching” McShane, “The Importance of Rescuing Insight,” 202.

<sup>49</sup> Cardinal Michael Czerny SJ, “Integral Ecology for a New Humanity,” *Thinking Faith: The Online Journal of the Jesuits in Britain*, August 29, 2023, <https://www.thinkingfaith.org/articles/integral-ecology-new-humanity>.

<sup>50</sup> Another example that explicitly refers to integral ecology is: “We are called to grow in responsibility, values and conscience and to gain an appreciation that we are part of an ‘integral ecology’” David Tutty, “Integral Ecology: A Deeper Insight into Reality,” <https://www.catholic.au/s/>, Catholic Social Teaching, Integral Ecology, 2022, para. 6, <https://www.catholic.au/s/article/Integral-Ecology-A-deeper-insight-into-reality>. It is thus a doctrine about types of growth, values, and integrality.

systems of canine development and bring that understanding to bear on the ailing dog.

Analogously, in integral ecology, there is the need and possibility of helping communities, economies and ecologies recover from crisis. That will depend on the prior work of obtaining a grasp of sequences of successes, failures, and their statistics, in history.

#### **4.8 Communications**

Consider, for example, the mathematics teacher. The challenge for the teacher is to help the student get from their current understanding to an understanding of a new theorem, along with its significance in the field, and to manage all of that by the end of a course.

Suppose that the teacher has become familiar enough with the student's progress to have some grasp of their oversights, errors and confusions, and of possible lines of inquiry and understanding by which they might get from where they are to understanding the theorem. As the student works through the course, where they are is a moving target. Nevertheless, in any given week, we can suppose that the teacher has some grasp of possible steps in development for the student. At some point, the teacher has to move from thinking about possibilities. They need to figure out what to say, how to say it, and to say it, in order to help nudge the student in the right direction. And the challenge complexifies enormously when the teacher works with a class of many students.

Returning to integral ecology, suppose that a community of scholars (whose expertise is, for example, economics, or ecology, or some area of human sciences) is thinking about a particular city. Taking advantage of results of Systematics, they collectively share some grasp of what is lacking in the city, as well as progress that is probably possible in the local economy and society. There is the further challenge of identifying particular options for the city that is populated by people from many traditions and from numerous walks of life.

Broadly speaking, there is the need and possibility of choosing best options. There is the further need to work out ranges of communications for particular groups. We are glimpsing, then, the possibility of an essential and eighth Task; that is, an applied science of communications in integral ecology.

## 5. Integral Collaboration

### 5.1 *A partial answer to why the status quo remains unchanged*

We have seen that, in *Laudato si'*, the presence of each of eight Tasks is mainly inadvertent, or merely called for. Individual paragraphs invoke one or more of the eight Tasks, thus leading to mixed and/or fragmentary results. This is not a problem in the Encyclical, because *Laudato si'* is not a technical essay. It is, rather, intended “for all people.”<sup>51</sup> However, inadvertent variation among Tasks *is* a problem in the contemporary literature of integral ecology. For such inadvertence undermines the possibility of progress.<sup>52</sup>

In the current literature, integral ecology tends to labour in the shadows of Research, Interpretation and History. But areas of interest vary widely as do hermeneutical results and historical descriptions. While crucial for resolving differences in views, Dialectics is absent. Essential for helping the academy pivot toward new possibilities, Foundations also is mainly absent. A Doctrinal tendency dominates much of the literature. However, aside from speculative systems theory models that are utterly remote to human experience, the needed follow up with Systematics is not yet a focus in either the social sciences or economics. And while many well intentioned groups have been reaching out to communities with messages of integral ecology, lacking is a buildup let alone appeal to a science of Communications that will be needed in order for outreach to be effective in everyday living.

We will need to obtain representative samples from the literature. To do such work in a way that can help the field move forward will require beginnings in collaboration among the eight Tasks.

What can we do in the meantime? At this stage, we hope that you have made a beginning in being able to identify the eight Tasks latent in your own thinking. You will then be able to go on to make initial identifications of shifts amongst the eight groupings of tasks in individual works of authors in integral ecology.

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<sup>51</sup> Francis, *Laudato si'* §3.

<sup>52</sup> The problem is described briefly in Lonergan, *Method in Theology*, vol. 14, “The Need for the Division,” 130-131. See also references in note 15.

It would seem best to conclude the paper with at least some indication of that preliminary work. We briefly point to a few aspects of shifts in two articles.

As the title suggests, “LAUDATO SI’ [sic] and its influence on sustainable development five years later: A first LOOK at the academic productivity associated to this encyclical”<sup>53</sup> is mainly past-oriented. Section 3 of the paper, “Results,” uses descriptive time series to demonstrate citation patterns in the literature. This contributes to a stated goal of the article, namely, to provide a “review of academic documentation that makes this encyclical the most cited Catholic text in the highest ranked and most influential journals dealing with scientific, social, economic development, and theological issues from a socio-environmental perspective.”<sup>54</sup> In terms of Tasks, the authors of the paper do not attempt to interpret the works of authors in the study, nor do they attempt to provide historical analysis. However, Section 4, Discussion, includes suggestions and questions that, implicitly, would be for Historians about why it might be that *Laudato si’* has been so heavily cited. This provides context for the concluding line of the article: “It is probably interesting to elucidate the scope of this encyclical in the future.”<sup>55</sup> In terms of Tasks, then, the paper concludes with a suggestion that, implicitly, is directed from Research to Interpretation.

The abstract of “*Laudato Si’*: caring beyond limits with a cosmocentric [sic] world vision”<sup>56</sup> gives a good indication of the dominant direction and purpose of the paper: “The aim of this article is to reflect on the necessity of building a new approach to perceive nature from the perspective of a cosmocentric world in the light of the papal

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<sup>53</sup> M. Carmen Molina and Magui Pérez-GarrSeido, “LAUDATO SI’ and Its Influence on Sustainable Development Five Years Later: A First LOOK at the Academic Productivity Associated to This Encyclical,” *Environmental Development* **43** (September 2022) 100726, <https://doi.org/10.1016/j.envdev.2022.100726>.

<sup>54</sup> Molina and Pérez-Garrido, “LAUDATO SI’ and Its Influence on Sustainable Development Five Years Later.”

<sup>55</sup> Molina and Pérez-Garrido, “LAUDATO SI’ and Its Influence on Sustainable Development Five Years Later.”

<sup>56</sup> Cinderella Sequeira, “Laudato Si’: Caring beyond Limits with a Cosmocentric World Vision,” *Theology* **122/6** (2019): 427–34, <https://doi.org/10.1177/0040571X19872106>.

document *Laudato Si'*.”<sup>57</sup> The paper concludes with: “Let us be intelligent and loving human beings, who are ready to be responsible citizens of this planet and who work to make it a better place to live in, understanding that Christ’s salvation is for all creation. Let us know the beauty of leading all creation to Christ in the true spirit of evangelization and not dominion over the other. Let us remember that the source of our nobility is ‘the Thou’ (*LS* §119). Let us pray that God gives us the grace to perceive our planet and our poor as our family and work towards strengthening our bonds and healing the harms of the past.”<sup>58</sup> By working through the paper line by line, it can be seen that the main Task to which the article is directed is Doctrines.

### ***5.2 Envisaging progress toward integral collaboration in its maturity***

A prolonged period of transition can be anticipated. Scholars will identify their focus and communicate results to the eight groupings, as needed. Results will be moved forward cumulatively through the sequence of groupings of tasks. Among other things, the Tasks will be committed to raising the quality of everyday life socially, ecologically, and economically.

In its maturity, integral collaboration will no longer be a semi-random aggregate of narrow interests and applications. It will, instead, be an effective division of labour among eight Tasks. At the same time, that division of labour will allow for all possible areas of interest or application.

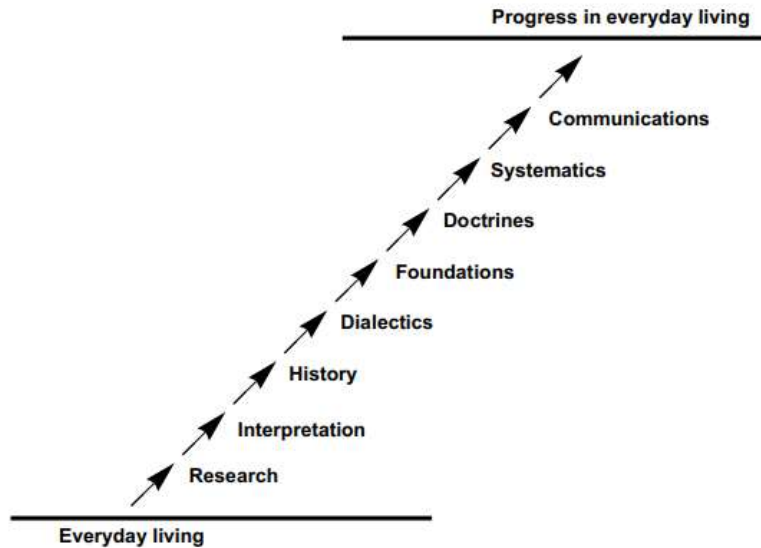
Among other things, the eightfold division of labour will resist excessive demands on individual scholars. The Task, Communications, will be “a major concern, for it is in this final stage that ... reflection bears fruit. Without the first seven stages, of course, there is no fruit to be borne. But without the last the first seven are in vain, for they fail to mature.”<sup>59</sup>

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<sup>57</sup> Sequeira, “Laudato Si’,” 427.

<sup>58</sup> Sequeira, “Laudato Si’,” 433–34.

<sup>59</sup> Lonergan, *Method in Theology*, 14:326.



**Figure 5.1** The eight Tasks will be committed to raising the quality of everyday living.<sup>60</sup>

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### ABSTRACT

This paper invites attention to a shift in methodology by which we will be able to resolve the collaboration problem identified in integral ecology. Evidence of its emergent structuring is found in actual collaboration, both past and present. This paper shows that ongoing work in integral ecology involves the operative presence of eight fundamentally distinct, historically emergent, groupings of academic tasks. These groupings of tasks were originally identified by Bernard Lonergan (1904–1984) as “functional specialties,” and the methodology as “functional specialization.” For purposes explained in the paper, we call it “integral collaboration.”

<sup>60</sup> Diagram made by the authors using Mathematica 14.3.