

## Field Nocturne 22

### Aggreformism

#### 1. Contexts

The immediate context is the effort of the prior *Field Nocturne* to bring us both further forward in our grip on the brain-meshed what that is us. We are pushing a little further here, but let us first take stock.

If we are successful in our focus on our strange reality as **whathere** then we have a beginning on attending to the strange inner result of that **herewhat**. The initial result is familiar in name to us: some type of insight, however teeny. But we have been thus, so to speak, locked out of illusion, locked into a solitude that smells of solipsism.

Now I must move to a particular type of insight. Yes, it fits with the direction of the book *Insight* and its frontispiece from Aristotle's *De Anima* III, 7 but it is that particular case of the ground of *hylemorphism* that is to be found only when we are beyond physics, beyond the simple *hyle* of Aristotle into the complexity of a *morphe* that holds, so to speak, a lot of acts together. Nor are we talking about the form, say, of a house, one of Aristotle's topics and a topic for Lonergan. Really we are getting to grips with the lots of acts that we are as humans, but the getting to grips for us, in this short sequence, is merely a sort of spot-check, checking spots that could help us re-envisage the entire task so inadequately sketched in *Insight*. We paused, far too briefly, on the spot suggested by Feynman.<sup>1</sup> Now we shift from the molecule to the amoeba: the diagram might even seem pretty well the same: a closed curve with symbols for molecules. You might note that Feynman's diagram is a way of dealing, badly, with  $f(p_i; c_j)$ , an instance of the title of the next section, whereas we now move on to an

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<sup>1</sup>You are, I hope, like I am, unsatisfied with how far we got there. There is a missing tradition of texts and aids and conversations. Still, there are those earlier conversations that I referenced, and there are future conversations that may take place: we have still 20 Field Nocturnes to go!

instance of  $f(p_i; c_j; b_k; z_1)$ .<sup>2</sup> But you might find it helpful to think and imagine within the fullest expression of the title of the next section, of the heuristics of being human. For that reason I threw in the context of phenomenology in the previous *Field Nocturne*. The problem was not just the water molecule, but a massive missing of the data on being human in a sincere effort of a scholarly group.

A similar context of motivation is one that preoccupies me at present: the sincere and prolonged efforts of Julia Kristeva's dedicated life to handle the split subject that is our reality in human life, a reality muddled immensely by the subtle distortions present in conceptualism and its apparent rejections. In a simple way one might settle with the question, Is there a way out of the either-or of reductionism and dualism? But the existential question is not so simple, and that complexity is laid on us mercilessly by Kristeva as she invites us to envisage pragmatically some dark aesthetic, here-ethic, way towards a cloudly identity.<sup>3</sup>

In so far as you are not just drifting but reaching to find your way through life, perhaps "without a known purpose, suffering.... and threatened ..."<sup>4</sup> and trapped under some regime that may pose as religion, then you have your own felt bewildering complexity. That is your primary context **here, what**. But within that context, **herenow**, there must be a measure of trust:<sup>5</sup> there is an offer of light, and the offer comes in terms of Descartes' advice of lovingly attending to a minute in the chemical goings-on of the amoeba. The minute - trust me [that terrible trivializing phrase!] - deserves a month of such attention: now is that not unrealistic in our busy world of daze?

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<sup>2</sup>For a plant we would stop at  $b_k$ , and the related schemes of botanical goings-on.

<sup>3</sup>A very shabby intimation of a massively complex thinking. I am indebted here to a doctorate thesis of Christine Jamieson, *The Significance of the Body in Ethical Discourse: Julia Kristeva's Contribution to Moral Theology* (1998: St. Paul's University, Ottawa).

<sup>4</sup>*Insight*, 385[410]. .

<sup>5</sup>*Insight* chapter twenty give a context in it discussion of belief in human living.

In this essay we have, yes, another unsatisfactory effort at general guidance, condemned to that unsatisfactoriness by conventions of teaching and talking. One needs counter-conventions, such as are to be part of the later Tower Community, where that month of amoeba-cherishing would be as comfortable and comforting as a Zen month focused on a flower or a bow without arrows.

One appeal I wish to make is to those, who genuinely do not belong in this climb, not to discourage those who do. In the zone of self-appreciative contemplation, we have something like a world tournament of tennis where there are no “opens”, only little village events in self-absorbed disciplines or schools. The task of the Tower of Able is to institutionalize “opens”, Wimbledons. But the matter to hand now is not just excellence in tennis but excellently meeting the tensions of genuineness in the face of “the monster that has stood forth in our time.”<sup>6</sup>

Here, here, at any rate there are three more sections, lightweight feathery, in this monstrous wind of dehumanization. The question is yours, even if it is hidden within a conventional life: I think of it in terms that get closer to poetry and fiction: so, I would appeal to that part of you which is in sympathy with Kate Chopin’s heroine walking out into the sea.<sup>7</sup> But here, that walk is turned towards the sea of longing for self-meaning. Section 2: who am I that walks, this function of physics, chemistry, florality and animality, and a **what** that is an exigence for some earthy beyond-achievement? Section 3: Lonergan presents himself in that objective fashion that is so shockingly undemanding, icy-smooth horizontal prose rather than some mounteering poetry. Section 4: my own previous failures, bring into to mind Samuel’ Beckett’s saying that I have already mentioned more than once: “No matter. Try again. Fail again. Fail better.”

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<sup>6</sup>*Method in Theology*, 40.

<sup>7</sup>If memory serves, it is the end of *The Awakening*, written at the end of the 19<sup>th</sup> century.

## 2. $f(p_i ; c_j ; b_k ; z_l ; u_m ; r_n)$

Despite its strangeness and complexity, it seems better to start with this symbolic lump, which I have called the first word of metaphysics. The various words are given the general title, **Wi**, so this word is **Wo**. I have discussed elsewhere the need for such words or metagrams, and I see no point in repeating such a discussion here. I wish rather to have us focus our attention on reaching a common meaning for the single symbol repeated within the word: ; . It is the usual symbol for that sentence-breaker called *semi-colon*.

What is the meaning of that semi-colon symbol here? It is difficult not to exaggerate. It points to the intimate and minimally-probable embodiment of spirit that is the heart of the cosmic story in its present and eschatological realization. W3 symbolizes that story, but here we need a beginner's focus. The real beginning, in history and in a thematic presentation, would with dispersednesses longing, zeal, for infolding banged forward with shocking immediacy into chemical being, the first occurrence of the semi-colon connection. It is not a beginner's zone, even though explanatorily it is simpler than the second occurrence, the cosmic fermenting into flowers. The best descriptive entry is through a personal musing about mono-cellular flowers or animals. But perhaps it is best to state the general thesis up front from Lonergan: "A concrete plurality of lower entities may be the material cause from which a higher form is educed or into which a subsistent form may be infused: examples are familiar."<sup>8</sup>

The piece of our paragraph, **study**, on which we focus now is "there have to be invented appropriate symbolic images of the relevant chemical and physical processes; in these images there have to be grasped by insight the laws of the higher system that

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<sup>8</sup>B.Lonergan, "Finality, Love, Marriage", *Collection*, University of Toronto Press, 1988, 20.

account for regularities beyond the range of physical and chemical explanation.”<sup>9</sup> The paragraph, we know, is not actually related to beginnings but to a program for the future of botany. But here we are probably struggling with beginnings, possibly as non-scientists, and I stay with this audience. Life scientists can tackle the more complex issues within their own teaching, texts, researchings.

So, while flowers are the next level beyond chemistry, I stay with a popular illustration that is provided by the little beast the amoeba. Both the beginner and the scientist can muse over a possible missing layer of conjugates.

Our interest is in both beginner and amoeba, according to the mandate of the second definition of generalized empirical method. Our interest is in advancing from the generic struggle with what is here to a struggle that pushes forward to some beginner’s appreciation of the way in which an aggregate of chemical reactions can, in a flexible<sup>10</sup> manner, have a form that makes non-chemical sense to us.

This is difficult to do in any serious manner without some grip on chemical forms and their actual reaction-equations: the sort of stuff that one finds in chemistry texts, but not at all presented in the context of generalized empirical method. What, one may ask are the forms that define chemical elements and compound and what are the complexes of acts, activities, that can be identified in the details of reaction-equations? Such questions are bewildering to both present chemists and present philosophers. So, what does one do, then, for the amateur? It is a matter of stirring imaginations, both for experts and amateurs.

So, for instance, instead of tackling the simple amoeba, one might pause to envisage the chemistry that is the dog’s going on for, say, one minute. During that time the aggregate that we identify as the dog - or the dinosaurs of Jurassic Park! - comes

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<sup>9</sup>*Insight* 464[489].

<sup>10</sup>The flexibility is a complex issue of the range of tolerance for “more or less” in lower aggregates of activities.

round a corner without disintegrating, and moving on its stable stilts of aggregated reactions, arrives all too close to you. Quite a piece of chemical goings-on.

The Jurassic Park version is an invention, a solution to a problem. But so is the dog: “an intelligible solution to the problem of moving in a given environment.”<sup>11</sup> You may note here, depending on your familiarity with the text, that I have replaced the word *living* with the word *moving*. The replacing helps to throw us into a puzzling about the moving, and into a puzzling about our easy slide into thinking of it as a peculiar type of moving. But first, there is the odd challenge of musing over the series of events of the one minute. Even from a commonsense viewpoint, and we had best allow for this as prevailing, it is, indeed, quite an odd imagining to view that buzz, swarm, of chemicals coming round the corner in the usual orderly fashion. The usual orderly fashion may occur to you to be related to problems of probability and of negentropy: that is all to the good. But even without that sophistication, common sense is startled by the suggestion that the buzz is just that, a buzz of macromolecules on the move. And what of the chemical buzz of being human?

But the focus herenow is on the buzz that is a minute of amoeba goings-on. Certainly find yourself a website, a text, but at a minimum draw a loose closed curve with wiggles within to “represent” the multitude of molecules twisting and turning, or being twisted and turned you might say, to get the loose curve from A to B.

Here failure is the name of the present game. I have written previously of my own month with the amoeba, a month of some twenty pages of scribbled musings in 1963-4 which ending up as a sentence in an article that took me seven months to write. I checked that article just now, and some if it is to be quoted below in section 4. But what do you think of my sentence: “We had been led to conceive Chaos as a thing, and we eventually satisfy ourselves that it is, not by taking another look, but be experimental

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<sup>11</sup>*Insight*, 265[290].

verification.”?<sup>12</sup> We have been led? I led myself, puttering about for a month. How might I lead you? Only if you are ready for patient puttering.

Yet, as I re-read that effort of more than forty years ago, it was not totally inadequate, and what I say now should be supplemented by the instructions there, beginning with “let us turn from theory to practice.”<sup>13</sup> But that surely is the problem: to accept doctrinal writing as just that: a map for a journey, not a speedy read. My project of leading you properly in a reading of **Neuroscience** was derailed, for me and by me, when I contemplated the massive challenge of presenting to you, making present to you, the buzz that is the total organ of hearing: we come back or forward to that challenge in the next *Field Nocturne*. Better prepared to cherish the odd evolutionary achievement of what we call *hearing*? I suspect not: most of my readers - did you? !! - will not have taken a month to build **what** to that new level of attending. This, of course, is a general simple thesis which I have applied regularly to the book *Insight*. It has little of the mystique of Friedrich Schlegel’s statement about classics: “A classic is a writing that is never fully understood. But those that are educated and educate themselves must always want to learn more from it.”<sup>14</sup> A classic is the expression of an achievement of human meaning: there is nothing strange in demanding that the reader, generally less talented than the writer or artist, has to repeat the climb, perhaps incompletely. So, *Insight* is a compact doctrinal graduate text: the unfortunate reader in the twentieth or twenty-first century has to personally climb through the non-existent undergraduate courses needed to break beyond its compactness to competence, to meeting the author.

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<sup>12</sup>See the full text below, at note 23.

<sup>13</sup>*Ibid.*

<sup>14</sup>Quoted by Lonergan in *Method in Theology*, 161.

### 3. Lonergan's presentations

So we come to the sort of help offered by Lonergan in this matter.

While the topic of "aggreformic insight" is touched on explicitly in lots of places, and indeed haunts the entire book, there are two main presentations, one in chapter 8 and one in chapter 15, and they differ in that the context of the second presentation is metaphysical. I would note, however, that they both share the context of my pointers towards the strangeness of **what is here** dallied with in the previous *Field Nocturne*. I avoided pointing towards this context in the previous section: did you note it, or its absence?!

These *Field Nocturnes* are an aid to reading a single paragraph of *Insight* properly, and it is no harm to see how that proper reading is a lift to the entire book. So, are you now ready to read freshly the pointer: "conjugate acts of the type,  $A_i$ , may occur quite regularly yet in a manner that cannot be accounted for by any of the schemes,  $S_i$ ."<sup>15</sup> It can be read with a freshness of at least noticing better that one does not know what he is writing about. What chemical acts, and what chemical schemes is he talking about? What is the new regularity? Our chemical dog gives only a vague imaginative intimation.

There is a problem in our culture of the genesis of new pedagogical classics, and what I am at here is giving a vague imaginative intimation of the emergence of such writing, way beyond the dead prose of **Neuroscience**. "Vague imaginative intimation", you note is repeated, but in the future classic the repetition twists into an integrated reality of generalized empirical method in its second mode, a mode missing out of the pedagogy of *Insight*. The book, then, has to be rescued for its own cool pseudo-objectivity. In terms of our present interest you and the amoeba become one. That message, the message of Aristotle, was present in the previous *Field Nocturne* in one way, and I attempt to push it further here. The attempt is an attempt, as mentioned at

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<sup>15</sup>*Insight*, 438[463].

the beginning of the previous paragraph, to give “a lift to the entire book”, but it is in fact an attempt to do so in the axial culture which cripples all such attempts. We are back to the need for *Insight's* Cosmopolis as later defined, but now we see that that need, so expressed, is also a comment, a self-reflective sadness in the book not made explicit, “this is a failure in its time”, “I have failed”.

Has he, did he? Might you prove my surmise wrong, and so, in this century, lift the sciences of life beyond a stumbling nominalist technology? Then you would have read Lonergan's presentation with a very strange self-presentational patience, in the mood suggested by these *Field Nocturnes*: a self-discovered self-discovering perhaps.

My next inclination here was to take a few passages to pause over with you. But I restrict myself to two passages here and I merely quote them. The first passage is one was the one we attempted to read as we read the diagram of water molecules. You may ask now, with it staring you in the nerves, “was my read in successful?”; “have is **comeabout** sufficiently?” The second passage is the focus of attention in this and the following *Field Nocturne*, titled “here hear”: will you be able to cheer yourself, hero of the liberation of hearing, after a month reading it? Then you will have read properly  $E_{ijy}$  in an amateur or advanced fashion, this depending especially on your competence in organic chemistry. You will have read properly the six words of our **study** passage, “the parts become known as organs”.

1. “Naturally, the reader will be inclined to view these images as pictures of reality. In this fashion, intelligence is reduce to a pattern of sensations, sensation is reduced to a neural pattern; neural patterns are reduced to chemical processes; and chemical processes to subatomic movements. The force of this reductionism, however, is proportionate to the tendency to conceive the real as a subdivision of the ‘already out there now’. When that tendency is rejected, reductionism vanishes.”<sup>16</sup>
2. “Let the terms  $E_{ijx}$ , stand for aggregates of chemical processes, where each aggregate

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<sup>16</sup>*Insight*, 257[282].

is merely coincidental from the chemical viewpoint. The coincidental aggregates can be imagined symbolically, and in them there will be clues leading to insights that pertain to the higher viewpoint of biology. Again, the insights occur on two levels. Aggregates,  $E_{ijx}$ , vary with different kinds of cell, aggregates of aggregates, say,  $E_{ijy}$ , vary with different kinds of multicellular living things."<sup>17</sup>

#### 4. My Own Previous Presentations

Obviously, my own presentations resulted from the effort to read Lonergan's presentation in the odd manner suggested, but I am far more attuned to this style of reading after fifty years of struggling. Having gone back to the 1963-4 effort to read passages relating to biology, I find that, yes, I can recommend the printed words there - **here now below, what?** - as stepping stones to your brooding over your little diagram, or better, your diagram backed and refined by biophysics and biochemistry etc etc. The latter betterment is important in bringing fourth luminous consciousness in future scientists: Lonergan's efforts, and mine, are towards changing the culture of the sciences. Helping you **herenow** with minimal symbolic images is just a step on the way that must be communally supplemented.

So I quote a doctrinal passage. Doctrinal? A compact guide to a little Everest. I amused myself just now by working out that the two pages which I quote took me a month to think out and write. Where in hell's name - certainly not in heaven's name - did we get the notion of summary communication?

So, here you are, in the presence of a pointer to your month's stewing, the result of my own stewing at the age of 32.

"Let us now turn from theory to practice. We join the scientist at his microscope. Within the field we distinguish a small blob. Careful observation reveals to us that it remains together, that it moves slowly about, that small particles in the surroundings

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<sup>17</sup>*Insight*, 262-3[288].

are able to get into it and eventually pass through it. Our growing curiosity about the blob and its peculiarities may lead us soon to ask the question, Is it alive? Where life means nothing more than an obscure correlation with the class of animals and plants. Perhaps, indeed, if we are chemists, we be slower to raise this question, for we are aware of the odd properties of drops of chloroform or of alcohol-injected clove oil. But eventually the question will be seriously entertained, and we move into the circle of empirical inquiry. For convenience we give the data a name: let us call it *Chaos*.<sup>18</sup> The obscure correlation of life is an hypothesis to be tested. Relevant tests quickly suggest themselves and are carried out. We find, for example, that only one part can be properly said to survive dissection. Again, further observation reveals that *Chaos* divides into two of its kind. And so on, until we grasp that we have sufficient evidence to conclude that it is alive. But this is only a beginning, a process of generic classification which no more than determines the relevant investigator. It is for the biologist to raise the significant questions, What is *Chaos*? Why is *Chaos* alive?<sup>19</sup> In more methodical fashion.

At this stage no one will doubt but that our questions are raised regarding sensible data.<sup>20</sup> To answer such a question one may well have recourse to images as well as data, but without the data or the images there is no understanding, and this no matter how far into abstract theory one has advanced.<sup>21</sup> Like much else that we treat of here, this is a question for personal reflection, the answer to which might well echo

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<sup>18</sup>More properly, *Chaos Chaos*, the Linnean classification of, most probably, *Proteus Amoeba*.

<sup>19</sup>For a discussion of the meaning of these questions in an Aristotelian context, cf. "The Concept of *Verbum* in the Writings of St. Thomas Aquinas," *Theological Studies* 7 (1946) 359-64; *Divinarum personarum conceptio analogica* (Rome, 1957), 260-66.

<sup>20</sup>The comments on this example are representative of the first five canons of empirical method, *Insight*, chapter 3; the canon of statistical residues will be touched on later.

<sup>21</sup>The image may be formal, virtual or merely symbolic. Cf. A Note on Geometric Possibility," *The Modern Schoolman*, 27 (1949-50), 135; *Insight*, index under Image;"The Concept of *Verbum*," *Theol. Stud.* 7 (1946), 372-79; *De Constitutione Christi*, p. 80.

Waddington's remark regarding his own model of the developing system: "Although the epigenetic landscape only provides a rough and ready picture of the developing embryo, and cannot be interpreted rigorously, it has certain merits for those who, like myself, find it comforting to have some mental picture, however vague, for what they are trying to think about."<sup>22</sup>

It is not, however, what he imagines, but what he sees, experiences, either directly or through instruments, that the biologist wishes to understand. He values only those insights that are verified, or at least have sensible consequences for which he can look. Thus, if he seeks to understand amoeboid motion he finds no place for the hypothesis of a *vis vitalis*, but he is willing to consider an hypothesis involving protein foldings, or diffusion forces. The search for these sensible consequences may well require the finest of microscopic and biochemical techniques, and perhaps wonder might fade into frustration. And we eventually satisfy ourselves that it is, not by taking another look, but by experimental verification."<sup>23</sup>

Two years later, in Oxford, I had another run at understanding the amoeba, and expressed that understanding, less compactly. There is no point in presenting any of that here: it runs right through a large chapter of the book.<sup>24</sup> But you note the need to face details of biophysics and biochemistry. In the third stage of meaning it is the self-luminous biologist that will treat such details self-luminously.

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<sup>22</sup>C. H. Waddington, *The Strategy of the Genes*, London, 1957, 30. Waddington goes on to consider the heuristic value of the model. It is perhaps worth noting that the stress on the heuristic role of images in *Insight* is not contradicted by M. Beckner's insistence on explanatory models (*The Biological Way of Thought*, New York, 1959, chapter 3); it is mainly a difference in terminology: we would prefer to consider explanatory models as abstract systems.

<sup>23</sup>I quote from the original published article, "*Insight and the Strategy of Biology*", *Spirit as Inquiry. Studies in Honor of Bernard Lonergan, S.J.*, edited by F.E.Crowe, S.J., Herder And Herder, New York, 1964, 76-78.

<sup>24</sup>The index reference to it is 177ff: the ff is deliberately vague, and you may find that you are led to push right on to page 205.

In the summer of 1966 Lonergan lifted my perspective enormously by pitching his functional structure at me from his armchair in Toronto, but I did not import it into biology when I pushed yet again at the sciences of life. "Image and Emergence: Toward an Adequate Weltanschauung" was primarily an essay in botany, but with twists towards the psychology of self-attention. The essay added context, but I do not think there is an advance in the pedagogy of aggreformism.

I had other musings here re future pedagogy, future luminous doctrinal reading that would lead the reader to a sufficiency of exercises, etc. I had even mused over a pedagogical presentation of the problem in terms of details of protein foldings. But perhaps I can leave such labours to another generation?