REPARSING NATURE

THE BIONOETICS FRAMEWORK AND THE AGE OF MAGIC AND WONDER

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"God is alive. Magic is afoot." L. Cohen

ABSTRACT: In this short note, radical proposals are made about the direction of the "exact" and "social" sciences. While it is uncontroversial to state that, as of 2018 as indeed for at least a generation before, the paradigms and consequently methodologies and institutions are no longer fit for purpose, few have raised their head over the parapet sufficiently high to enunciate articulated alternatives. The foundations of mind project has published over 150 papers from names like Kauffmann, Freeman, Stapp, as well as left-fielders like Capra, Langan, Wolf and Sarfatti; while it continues to struggle financially, the record download levels suggests many are listening. In this brief paper I will try to eschew technical terms where possible as the intent is that those not familiar with any discipline and its controversies can understand the basic problems. Those wishing to find the original references can peruse the 7 volumes of proceedings we published 2014-2018.

KEYWORDS: Consciousness; Paradigm; Biology; Neuroscience; Normativity

INTRODUCTION

The first desideratum of any new schema is that is should follow the facts. These include precise measurements and logical argument. However, theories are vastly under-determined by such facts, and it is theories that are understood.

When, in the 1950's, George Miller tried to interest management at Harvard in an institution for what became cognitive science, he pitched that it would study knowledge. The reply was that surely the whole university was doing so? This is more

than a debating point. Cognitive science best describes human knowledge as the result of internalization of mind-world interactions; Jean Piaget resolutely attempted to show how these could explain the certainty of elementary math.

However, math progressed so quickly partly because it can be applied in what Wigner called unreasonably effective ways to physics. We can more properly call this noesis. The union of knowledge from cognitive science and noesis is the subject matter of Bionoetics. As its name suggests, it also like Piaget has roots in biology, particularly when biology is not being reduced to the neo-Darwinian synthesis and its accompanying genetic reductionism.

The use of statistical models and "mesoscopic" levels of analysis which averaged behaviors have been gamechangers in the issue of what constitutes knowledge, or the entity formerly known as justified true belief. While Schrodinger in particular was initially uncomfortable with the former ie statistical models, once it fit into the community of practice that consolidates a paradigm, the edges were hacked off. Such paradigms are the stuff of this paper. Paradigms include also a disciplinary matrix, including universities.

A second desideratum is the re-recruitment of our moral and aesthetic senses. Science as instrument, as Aristotle's techne will continue to prosper in any case as it is intellectually and financially rewarding. Lacking any techne of the subjective world, we must find some other way to justify an activity that seems morally good, beautiful or true in some sense other than the purely technical.

This current crisis in our value system has been festering for some time. Dialogue between different cultures inevitably leads to those forms of relativism now described for good and ill as "multicultural". The fact that the early web used html and lacked a blockchain system to allow efficient payment increased the dynamic to objectify all symbolic products of the human psyche as "content".

While the web could theoretically be re-architected, it was noticeable that in 2018 two sittings of the European Parliament were required to get journalists and their employers a share in ad revenue from "content". The point had to be made in Le monde and other "Content providers" prior to the second vote that journalists often risked their lives to deliver their work. Indeed many of the freedoms of speech, thought and assembly enjoyed by billions of the world's population arise from such work.

It is accepted in linguistics that a speech act can have perlocutionary thrust, in that it requests a response that available in its "semantics", as well as locutionary status as "content". This brings us back to the science of the subject. It is now clear from quantum mechanics that linguistic acts, considering math as a language, can also be incantatory. They can change material reality, both past and present. Quantum field

theory features the most precise measurements ever made in science, and cannot be ignored.

While there have been many false quantum dawns before, this time there is traction from quantum computing and other sources. Moreover, it is clear that the paradigms used in molecular biology, neuroscience, and many other areas can be described as a form of logical atomism driven to extremes by the research funding regimes we live under. As we have shown, it is possible to do much better work with no funding at all.

PHYSICS AND THE OBSERVER

Classical physics we will characterize as phenomena subject essentially to Newton/Galileo/Maxwell and classical "efficient" causality. Poincare introduced chaotic dynamics is a panicked retraction of an already published and prize-winning paper. An intriguing link between entropy in signals and physical systems was unearthed by Shannon, giving rise inter alia to modern communications.

What is argued here is that these classical laws are inherited by biology, which adds new forms of causality and information. In particular, biology speaks about function on the one hand and organization/form on the other.

The Nobel laureate Frank Wilczek among others has stated that characterization of the observer is an urgent current task for physics. The classical observer is handled by relativity from Galileo to Einstein. The quantum observer actually affects "objective" states of affairs. The viewpoint here is that such action is the limit case of human mentation, and can be seen also in cases like the "Monty hall" problem where assignment of probability becomes causal.

Since in quantum mechanics, all we essentially know is probability, it seems we can affect matter. In our viewpoint, a new entity enters the universe when an observer capable of a formal system >= formal arithmetic, and thus subject to Gödel incompleteness, and intentional as an artifact of being a biological creature, sustains an observation. While the math is being worked out by researchers like Stapp and Sarfatti, it suffices for our purposes to remark there is something numinous going on here.

BIOLOGY

This has suffered more than any field from logical atomism, with the HGP being hyped as allowing the mapping of every single trait unto sequences of nucleotides. The absurdist result of ~30k "genes" has not been properly confronted and at the very least the linguistic model of how these "genes" can be combined in context needs to be tried out. Moreover, they need to be analyzed wrt what seems very similar to a language

"context", metabolic factors differentially affecting their expression.

Yes, that will take the entire 21st century. Currently, the impetus to quick commercialization of promising nucleotide sequences has meant that computer modeling has not even examined programming languages like LISP and PROLOG that, like DNA, are homoiconic; programs and data have the same form.

Most of the metatheory is already in place. While Waddington's "epigenetics" has become accepted, his notions of top down effects from the epigenetic landscape allowing genetic assimilation of adaptive behaviors that were already occurring with random mutation needs to be taken into account. Such assimilation allows Nature to reflect the striving of her denizens and begins the acceptance of metabolic factors as a causative theoretical construct and metabolic control analysis as a methodology .

It is now also increasingly acceptable to use Aristotelian final causality (speaking in terms of function) as well as material causality (organization) in biology. As a paradigm, the ubiquity of hierarchy seems to suggest Haken's synergetics, which encompasses dynamical systems in a framework that countenances hierarchical causal effects, coupled with the considerations on causality, symbols, ecosystem effects just mentioned.

NEUROSCIENCE

The fact that Neuroscience is not progressing quickly, despite massive resources being poured into it, is well known. It should not be necessary to state that Neuroscience should restrict itself to studying the brain and use observations like those accumulated by the late Walter Freeman to produce findings and therapies. Moreover, it should do so in a neurodynamics paradigm, with a distinction made between levels of analysis at microscopic or single neuron, mesoscopic or tens of thousands, and macroscopic reflecting fmri of other observations.

One major problem has been the attempt to reduce cognitive phenomena like language to neural events. For a variety of reasons, the most veridical and elliptical "code" for a linguistic utterance that can be communicated to another is the suitably honed utterance itself. There are of course exceptions that prove this general rule like twins' or programmers' private languages.

However, as a general rule, the fact that our language is implement in neural "codes" that most likely reflect the fact the brain uses co-ordinate free flows is not relevant to understand language. Such understanding requires hermeneutics, roughly speaking the study of texts in their historical context. Therefore, as biology Neuroscience inherits the synergetics framework; as a cognitive and noetic enterprise it is constrained by hermeneutics.

That frees Neuroscience to study codes in the brain. It is our hunch that the microscopic code is essentially a pseudo-Fourier transform, and that at higher levels the brain implements context-free grammars in a manner suggested by Paul Smolensky. This is then synthesized with a "semantic" level in a manner idiosyncratic to each individual. In this writer's experience, only a formalism as encompassing as quantum field theory can handle each of these components while also acknowledging that the ultimate language user is a human giving expression in context to her knowledge of being-in-the-cosmos.

These codes will reveal little about how humans function. Just as different proteins are used by nature to achieve the same function in an ecosystem, so also top-down effects from social contexts are paramount in our behaviour. Indeed, quantum theory allows the individual, in the limit, to use language as incantation to change events in the past and present.

THE INSTITUTIONAL CHAOS

Universities as communities of scholars, where young adults voluntarily submit themselves to the guidance of a teacher who in turn submits himself to the discipline of his subject, are an endangered species. Administration bloat has made the environment toxic, and fees costly.

The fact that better courses are often available in complete freedom on the web means that only the state's insistence on cornering the market, and funneling young adults into what is ultimately an indenture, is preventing a clean and quick solution here. The state can then use the huge resources of its universities as a more efficient public good, instead of sneakily preparing them for privatization with a massive pay day as is still happening in countries like Ireland.

Only slightly more complex is the nexus of funders-tenure-journals which controls "knowledge". The problems are manifold; from the taxpayers' point of view, she pays for the lecturers' salary, then pays for his research, then pays to see the product of the research in pay per view journals, then pays for goods that use the product of the research. From the lecturer's point of view, and if he is not a cynic, he is often juggling his own career, the futures of his students, and imperatives from Administration.

That leads him to over-promise and logical atomism has been seen in fmri, when a debunking paper in 2009 originally starting with the words "Voodoo correlations" laid bare what had almost become phrenology, as well as the HGP. In fact, there is a school of thought led by John Ioannidis giving sound statistical reasons "why most scientific results are false".

In the meantime, the founders of what are now attested solid fields like quantum

information theory have ended up living on welfare. The solutions here lie in an expanded view of what Universities should be; or, rather returning Universities to their original roots.

First of all, journal reviews, and the names of reviewers, should all be published on the web. Secondly, a more liberal funding policy, which incentivizes more students to engage in research by giving them sufficient grants to leave their parents' home, and diversifies grants beyond the squeaky wheels to those with a left-filed track record, perhaps including the tens of thousands of open source journals now springing up. In fact, the state might contemplate establishing and supporting a further myriad such journals.

I need to enter a personal plea here. Our attempt to fund the foundations of mind project by crowd-sourcing, particularly through the hundreds of thousands of downloads we get, has nor met with the enlightened generosity we expected. It is still funded from my own very meager resources and Arran Gare's volunteer work as editor. If the arguments in this piece make sense to you and you wish to see more new explorations of mind and life not indebted to corporate sponsors please donate at foundationsofmind/donate

CONSCIOUSNESS STUDIES

In this section I will

- 1. Outline the terms used:
- 2. Indicate their origin and testability where appropriate
- Outline the theory
- 4. Show how it can be tested
- 5. Indicate the gaps in it
- 6. relate it to other theories in the field
- 7. relate it to an encompassing framework

The following terms are used:

- Intentionality (from Aquinas/Brentano); the capacity of mind to "intend" or "mean/point to" something in the external or internal world
- 2. Observation; in quantum mechanics this refers to a process whereby a wave function "breaks down" as a result of an experimenter. In meditation, it refers to "being present" to stimuli. The former process has a clear scientific

- pedigree, with the most precise findings in the history of science. The latter depends on subjective report
- 3. Awakeness; quite simply what happens to all of us every morning, accompanied by such signs as eyes opening and brain wave rhythms changing. It also is simply testable on patients emerging from anesthesia, or indeed in brain-damaged patients like Karen Ann Quinlan who woke every morning
- 4. Attention; at the primitive level this is the capacity at attend to one or other of several signals coming in from several senses. It has a signature at the neural level of sparsification of the signal by decorrelating fluctuations
- 5. Awareness; this is a state of Awakeness with a signature of gamma frequency correlation. It has a subjective signature of intensity of meditation. In general, all but top meditators drift in and out of aware states.
- 6. Thought; this is the capacity to solve problems presented by the world, and is much older than humans
- Symbolic capacity; this is exemplified by birdsong, which has a primitive grammar but is not conceptual
- 8. Language; this is unique to humans, and is the synthesis of thought and symbolic capacity
- 9. Consciousness; as indicated by the Latin con-scio, this is the process of "knowing together", of the fusion in the brain of processes hitherto discrete like thought and language. It has an objective correlate of high synchronized gamma and a subjective correlate of a heightened sense of self as contents are labeled as ego-consonant or ego-alien.
- 10. Trans-Turing computability (TTC); this refers to the capacity some say arise from Consciousness of formal powers exceeding that of Church-turing machines.
- II. Sensorimotor; this refers to action like a rat exploring a maze, or indeed a Roomba exploring a room. The environment is first conceived of in egocentric terms as the set of actions that can be performed on it (coupled mentation). Once a map is established, the rat can construe itself in "allocentric" fashion as an object in the environment, and myriad experiments have shown a clear neural signature for this (decoupled mentation). It has been argued that in a further stage, the rat can behave egocentrically in this allocentric environment (relativistic mentation). The events at this level are in general too fast to enter

- consciousness, which operates at about the tenths of seconds. In fact, when we practice skills, we seem to be forcing them into the sensorimotor realm.
- 12. Cognitive; this refers to the space in which we live most of our lives, where conscious events usually mediated by language predominate. It too has coupled and decoupled modes. Whether it has relativistic or other modes is in question.
- 13. Noesis; this refers to use of "the unreasonable effectiveness of math" to come to findings about the cosmos which a priori would seem unattainable to primates. Noesis has coupled and decoupled modes with the latter culminating in a numinous mode in which the distinction between subject and object becomes nuanced, in which there is a capacity to affect events in the past, and other paradoxical processes. Again, these events seem conscious only in the limit.

THE THEORY

The theory, part of the Bionoetics framework, takes Intentionality as basic. It may be implemented by the fact that far-from-equilibrium systems like neural systems are stabilized by an object in the environment; it may simply be baked in from the start in dualist theories like Stapp's where observation is the essential concept.

It may be clear from the definitions above that consciousness is considered as a signature mainly, and indeed almost exclusively, of the cognitive realm. It may even be the case that our social world consists of cognitive artifacts precisely because only they are normally conscious. Conscious states seem to be neurally unstable, and we can benefit from the high dimensionality of consciousness and the sparsification of attention only for a few seconds at a time. Quite why this is the case and how to improve human functioning in this regard is an open question addressed perhaps best by Gurdjieff in recent centuries.

Because consciousness involves gamma synchrony, it has a signature of attenuated consumption of metabolic energy in the brain. According to the very last work of Walter Freeman, it also can be said to involve the creation of states of low entropy. It also seems to be the case that with a consciously attentive state comes the capacity to identify psychologically with a source of awareness, all the while memories are being laid down.

In a previous paper this author has argued that such events involve registration of the stimulus at different signal to noise ratios, defined by the frequency of brain waves (theta to gamma). This slows the phenomenon of content associative memory, where a part of a stimulus can retrieve the entire memory. This is speculative, as is the notion that we "mark" such memories as belonging to a self and experience as ego-alien violations of that mark.

Much of the theory is well-attested, and some can perhaps never be proven. The relevance of gamma synchrony is accepted; on the other hand, we may never know how we can use "the unreasonable effectiveness of math" as math itself is our touchstone of truth. Attention has been operationalized; but why conscious events can only last a few seconds requires that we understand more about carrier and content in the cortex. We need to develop metabolic control analysis to well beyond its current primitive state to understand how low-entropy energy with health benefits may be a happy result of consciousness.

OTHER THEORIES

Computational and psychological theories, essentially variations on global workspace models, dominated until recently. These can be seen as variations of the theme of consciousness as reflecting a carrier wave like gamma being broadcast throughout the cortex, with the contents reflecting modulations thereon.

More recently, with interest in quantum computation, more physics-based theories claimed charter from the fact that theirs is the most precise science. Sarfatti's Bohmian theory sees the pilot wave as a qubit field with subjective experience being "written" on it. His testable prediction is that systems with his architecture will show TTC behaviour.

Stapp's adaptation of Von Neumann is above all an assertion of human free will. In what looks to this writer as a mapping from the noetic to the cognitive – indeed, he is the only writer I know who has bothered to show how inconceivably quick quantum events can be slowed down by the quantum zeno effect to neural speeds – he argues that quantum observation involves changing the wave-function of the cosmos. This is not incompatible with Sarfatti's writing on the pilot wave. It features free choice both by the observer and by nature and is thus TTC.

The most famous is the Penrose/Hameroff model. In the 1989 classic, Penrose used computability theory and logic to indicate that conscious humans could achieve ttc by transcending Gödelian limitations. While it is difficult to retrieve this argument from the current Penrose/Hameroff writings, it would seem to have the converse that only an intentional system of formal power>= standard arithmetic can perform quantum observation. This is consistent with the evolutionary argument of my schema that sees math as a special form of Language emergent in humans and with the capacity to intend and indeed change the cosmos.

CONCLUSION

The field needs to become a discipline. The contents of consciousness are literary theory, political science, folk psychology, and so on, and are not reducible to a "science of consciousness". To be able to look at a substrate underpinning our every conscious act and show how this is reflected in an articulated theory should be reward enough. Elsewhere, this writer has argued that perhaps quantum field theory may be the appropriate formal framework and nothing less than a suitably reenchanted account of the cosmos and our role in it the appropriate narrative; that's another story or rather metanarrative!

The new discipline requires knowledge of all the standard subjects of cognitive science (Philosophy, particularly the philosophies of mind and science; psychology; linguistics; neurodynamics; AI, particularly computability theory; and ethnoscience.) It requires also knowledge of quantum mechanics at least involving the Heisenberg and Schrodinger formalisms, and their equivalence, together with the foundations adduced by Von Neumann. It should include formation in the social sciences at least up to the point that the role of the social in modulating the contents of consciousness is understood. There should also be in-depth experience of at least one spiritual disciple and art form.

SOCIAL SCIENCES AND THE NORMATIVE

We are now in a position to take on the relativism which, installed as an epistemological fact and methodological principle, has in this writer's view given rise to a reaction including Trump and much else that is evil. Essentially, we can argue that social relations are of course conscious. They enter into the cognitive domain.

In the schema here, they are initially coupled and egocentric, This means that you indeed might think of yourself as a king of infinite space, while being in fact bounded in a nutshell. To become decoupled is an act of will, a recapitulation on the symbolic level of the subject-object differentiation that Piaget described at the physical level as the first step away from one's mother.

Once we achieve an allocentric perspective, we exploit an analogue to what is called in computer science an "interrupt" to preserve that achievement in an initially subsidiary sense that something in what Trump is saying is not right.....until you realize that it violates the very separation of powers that is part of your identity as a citizen. At that point you move into explicit "Decoupled" mode, and the relativists might tell you to "chill out".

You shouldn't. In fact, you should attempt to progress to a relativistic mode, in which as an adult you are expected to cut your own path in that set of social contexts

called "life", some in the exigent real,, some in other realms like the aesthetic, as described in the last foundations of mind proceedings. Consciousness studies, as reconstructed above, may be the disciplinary matrix in which we resurrect the normative as a natural kind.

CONCLUSION

It has been a relatively small project to produce the voluminous work of the foundations of mind project. Alternatively put, the coup attempts were in the first decade of this millennium, and were many levels above Trump in their subtlety. In most countries, we can still actually think, express our thoughts publicly, and vote. None of this was meant to be the case by now.

The Machiavellian brilliance in encouraging people to post onto the suspiciously cheap format of the internet to control the population ran aground with Snowden in 2013. The torch was passed from the "deep state" on to the utterly charmless princelings of Silicon Valley whose willingness to undermine democracy in support of their profits has caused justifiable uproar. It has led to deep questioning about what, other than objectified "content", is free speech? To put it in speech-act terms it is not only perlocutionary, including hortatory, but we now know certain observational acts are incantatory.

We live in an age of magic and wonder. To assert even the most reductionist evolutionary perspective is to acknowledge we are means for the cosmos to know itself. To insist on the pre-eminence of science because of its observational precision is to be open to the causal and numinous observer of quantum theory. What is described above is one framework allowing re-enchantment. In a previous paper, I spoke of the imminence of true hierophants enunciating our new landscape of magic and wonder. They will perhaps point to the presence of sophisticated art like jazz that nobody pays for but many practice at great cost to themselves as indications that the numinous can be found there.

They may point to the robustness of democracy and other western freedoms in the face of clear evidence from China that fascism is a more economically efficient system, They may choose to combine these perspectives with what we are coming to know about quantum mind and is access to the cosmic into a perspective that reintegrates us as societies and denizens of this cosmos in celebration of a new taxonomy of the sacred.

If there are no further foundations of mind proceedings, it will not simply be because I have tired of the stinginess of those consuming our work; it is because Nature has found another way for me to express my gratitude and joy in the astonishing fact of being alive, here and now. For the moment, it is bliss itself to see democracy so vibrant

in the USA after the sophisticated and cynically brilliant coup attempt of the W. Bush era that two presidents have been actively out on the stump.

The very extremity of the rhetoric used by one side in particular is an index that the coup failed and it matters little who wins as the state is again under the people's control. The fact of a demagogue trying to activate his base is a signature of the failure of the W. coup. The facts of multi-billionaires serially "apologizing " for debauching the political and moral processes in nearly every country on earth is another index that they have not gotten away with it – this time!

For the moment, we may have to recruit our sense of the sacred as a Noah's ark for our intuitions of what is valuable. We clearly must do so outside the spaces offered by any of the disgraced and intellectually bankrupt conventional religions around us. Where we see a sophisticated and historically attested practice like live acoustic music surviving the current onslaught of academic relativism and tech billionaires, we can suspect the infinite is available in an act of noesis at events like the performance of Mozart.

We can suspect at the very least that we are wreaking molecular and genetic change to our own bodies by acts of meditation on these noetic entities. We can trust ourselves to get more excited by the earth we live on and the cosmos it came from knowing that the coincidences like the value of the fine structure constant show life is jury-rigged for us.

At some point we will do better than a demagogue as the major political force on the planet. Somebody will educate us as to how some framework like Bionoetics can recruit our experiences of the true, good and beautiful to grant us a revelation as certain as Abraham's. The genius of the Abrahamic religion was to posit a god who was ubiquitous, invisible, omnipotent, absolute, eternal, pure act and yet accessible in our subjectivity as something to be invoked. We can assert as sacred precisely those freedoms won over a millennium from Abrahamic priests and regain the ecstasy of being alive our secular age has lost. In doing so, we counteract the Islamist drive to "unicity" in an ever more homogenous God and a society with no separation of powers. We can reject completely the dangerous ideas that this god is a person, infinitely good, susceptible of invocation by canon law, or favours any tribe over others.

In fact, even the "atheistic" Buddha of the Pali canon asserted a transcendent Reality that was unborn, unoriginated, uncreated and unformed and in which we eventually could seek shelter if we obeyed a set of guidelines in the eightfold path. What we can say without contradicting any attested 21t century science is that underlying all the unlikely accidents leading to our existence is an infinite source of energy at low entropy. That has led to the wonderfully ordered and varied cosmos that

we live in.

It continues to drive evolution forward. Is it conscious? In the schema here, the cosmos is its act of self-awareness. More than that; at these always brief moments of conscious attention, we seem to have access to processing powers well beyond our normal range. Moreover, these moments lead to much better creation, and are almost always remembered. We can, if we like, construe them as moments in which the uroboros underlying everything is immanent in us. We do know that quantum observation inovles changing the wave function of the cosmos.

It may well be the case that what's left of the Abrahamic faiths is degenerate versions of that insight. Even such degeneracy allows perfectly modern young men and women sufficient space to enter monasteries, where they - in an act of conscious assent – give up everything in order to have more moments of conscious attention. Even the carcass that is Christianity still has rituals of initiation and agape that incarnate a drive to the eternal through the embodied beings we are. It was left up to the maverick Gurdjieff to exalt conscious attention as the goal of 20th century spiritual life. His lack of understanding of western culture has left a clean-up job to be done in what seems a numinous project.

Contemporary spirituality might ponder the art of the counter-culture like jazz, the science of the counter-culture like this project, and the political activism of the counter-culture like Assange, Snowden, and others whose work has clearly given us new political freedom as we prepare for the third decade of the third millennium. It might indeed ridicule the notion that the so-called "ontological transformation" of a Catholic priest allows him (always he) to transubstantiate. It might continue to ridicule various quantum-influenced cults like "the secret" while searching for communities of practice that show "God" immanent.

They are closer than may seem to be the case. People in general behave to each other with consideration that can soon turn to kindness with no immediate benefit discernible. Great artists who risk their very being to create works that nobody will buy still exist. In 20th century Ireland, over a dozen men (some atheists) did hunger strikes to death for what initially looked like political freedoms – themselves fine goals – but increasingly look like the birth of a new type of European civilization as Scotland gets restive.

It seems that people cannot wish each other well, but have a very positive effect if the simply stay with an ailing friend, or come and silently support a colleague or student. It seems also that we will watch a live TV program vastly in preference to something recorded that only we are watching. The survival of movie theaters after video stores' demise has given pause? Somewhere here, in these Sheldrake-type speculations, is an experiential "science".

And I have now dedicated a decade to this project for no financial gain. I have introduced myself into this narrative as the only way I know of finishing it. I have waited a week to see if I still felt the same about these ideas before committing them to writing. It may be the case that the above is standard writer's self-hypnosis coupled with recovery from recent trauma; in short, mental masturbation.

What I want to end with then, is a very short intellectual autobiography. I was educated by the voluntary celibates of the Sisters of mercy and privately by the Jesuits. I also went to a very ordinary national school in my hometown of Kilkee. In all these schools, teachers gave either completely of their lives or did free overtime.

I learned very little at university and, aside from Trinity, it is now clear the Irish state cannot run universities. The 3 years I spent with the NRC in Canada allowed me to master most of the technique I now have with egoless Canadians as teachers. 30 years after finishing with the Jesuits, and after a bizarre and – on the face of it – disastrously unlucky set of events, I was handed over to the Great generation mentors who helped me learn what you have read here; it is to the late Richard Strohman, Walter Freeman, Patrick Suppes, Karl Pribram that I dedicate this, the end result of what is hopefully the last disastrously unlucky set of events I experience! I hope they would be proud of me.

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