GOD'S UNLIKELY COMEBACK; EVOLUTION, EMANATION, AND ECOLOGY

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ABSTRACT: This paper has three contrasting sections. The first starts with a description of the academic context that has led researchers like Stuart Kauffman to introduce "God" into respectable discourse. It then goes on to juxtapose his schema with similar others that his work does not reference. It is proposed that, since humanity is the cutting edge-for good and evil-of emanation/evolution, it is human development that we must focus on. This, in turn cannot properly be discussed without reference to first person descriptions and their contrast with third person descriptions. Likewise the role of those contrasting accounts within and outside the academy, which is currently under threat, must be referred to.

Accordingly, the second section begins with the delineation of subjectivity suggested by current neuroscience. It is argued that the cluster sampling of EEG will yield significantly more meaningful results than other competing methods.

This paper makes the admittedly radical contention that it may be intellectually responsible to engage in forms of thought and practice that engage the whole of life in a manner heretofore addressed by "religions". Such forms of life cannot responsibly emerge from an insight into the nature of physical reality, which is the province of the academy. Rather, these forms emerge from consideration of the human psychophysical unity as it engages with a succession of different contexts and attempts to reflect on and refine its responses to them.

The nature of the academy early in the 21st century is a confounding factor. The corporate pressure to attenuate academic freedom is real, as is the fact that academic freedom in liberal democracies would immediately migrate to other, initially unfunded structures in civil society with the internet offering myriad opportunities for dissemination and immediate critique of ideas. Orthogonal to this is the attempt to specify and refine one's psychological life, the bane of academic psychology from 19th century German research onwards. It is argued that academic psychology has an asymptote at this point; better to distinguish between the "academy" and the "real world" in a way that best does justice to both, and allows the layperson to participate in a

genuine attempt to seek knowledge by providing him with a veridical cosmology and psychology, than risk a new absurdity rivaling ontological behaviourism. Many salient facts about human psychology can be discovered by oneself in the "real world", if only because the imperatives there will always be more compelling.

Finally, a synthetic narrative is proposed, one in which the evolutionary ethos of the first section is interrelated with the signs of the second section. This final section may yet be read independently of its predecessors. Kauffman's imperative "reinventing the sacred" indicates something is awry in our conceptual and political systems; it is argued that historically authentic religious movements have preserved something they considered divine, and done so on the margins of society. In fact, this marginalization may be the essence of the religious impulse.

KEYWORDS: Evolution, emanation, emergence, anthropic principle, neuroscience, consciousness, subjectivity

PREFATORY COMMENTS

The first point relates to the context of this contribution. Were it fully committed to the academic process, certain things are lost and gained. What is lost is its obligation to base itself in forces in the larger society, as these are set aside in the academic context to afford intellectuals a sharper focus. Intellectuals in academia have no obligation to be comprehensible to the masses, and are asked in return to address current topical issues with increased precision; the state has been happy to provide them with the gain of financial and indeed physical security for this – at least up to recently. If the state continues to withdraw from this role in providing a venue for free inquiry, it is likely that other entities (including an initially "hedge school" coalition of scholars) will fill the vacuum – and historically resources have followed

This paper addresses many current issues, some directly, and others more obliquely. In the first section, starting from Kauffman's recent expedition in the area, we consider how the immanence of order has caused even "hard" science – indeed, particularly "hard" science – to consider schemes so outlandish for explanation of the anthropic thrust of the constants of nature that the old saw "God does it on Tuesdays" now seems like a relatively reasonable explanation. This paper is paradoxically being written at a time when believers in "evolution" (limited to an outdated NeoDarwinian ethos) are at odds, politically as well as epistemologically, with "Creationists". It is argued that the first group need to familiarize themselves with the emanationism that Darwin only dimly grasped; for the latter, it is argued that a suitably modified

emanationism/evolution is actually their best hope for retrieving the ethos of positive psychological transformation in the context of an over-arching sense of the cosmos in which that transformation is meaningful. This process has led to many of humanity's finest moments. We find a recent effort in this direction in the work of Gurdjieff.

But wait! Surely we are not going to countenance a worldview incompatible with modern science in order to generate an emotional frenzy that we then called sacred, the intensity of which will increase as it is contradicted by the facts? Of course not; but neither are we going to commit to a worldview that – in the past century – has variously and absurdly outlawed talk of mental process, trivialized biological inheritance, and announced that some stars are older than the universe. Thus, the paper ends with a tentative cosmogony in which the next step in evolution is seen in a larger context. Moreover, it is proposed that if it is granted that the unfolding of the cosmos, as Paul Davies concluded in his book on the subject, can be seen to point toward humans interacting with it and each other in a meaningful way, we do not need the gear supplied by the Abrahamic religions to transcend ourselves in the manner that the religious have done. In fact, we can work toward preservation of that which we see as sacred. In our case, it is argued that enacting legislation preserving the environment and human well-being in general, fighting corruption, preserving freedom of inquiry and speech, as well as action preserving true methods of inquiry into the real in science and art are examples of such work.

Sankara, Ramanuja, Milarepa in the East as well as Marcus Aurelius, Eckhart, John of the Cross and others in the West and scores of others have indicated a state of being in which the transcendent somehow exemplifies itself in a suitably transformed human psyche. This state of Being was available also to those in the active life; as the founder of the Vincentian order put it, pray that its recipients do not experience giving as mere charity. Religious formation, unlike academic formation, is mainly about the transformation of the subject; selflessness is induced, by greater (Mahayana) or lesser (Hinayana) vehicles. Yet this is done in the context of a cosmology and cosmogony; the fact that religions in general currently teach absurd cosmologies and cosmogonies as "truth" needs to be rectified, and that is one of the goals of this paper. We hope to preserve the self-transcendence of religion without eschewing the truth-seeking of academia.

The paper thus attempts to specify a role in society for what we currently call "the academy" and what we call "religion". Academic ideas, like all others, are eventually processed by the brain, and this is the beginning of my analysis which is outlined in the following section. It sees a progression from mere attention, the capacity to evaluate salience of signals in a multi-sensory environment, to that stream of narration to oneself

that we commonly identify as "consciousness". In particular, it argues that this "consciousness" indeed may be related to phase synchrony of gamma oscillations in the brain. These gamma oscillations, in turn, decrease the metabolic demand of the brain on the rest of the organism. Meditators have learned how voluntarily to improve their health by increasing the amplitude and synchrony of their gamma oscillations.

In evolutionary terms, gamma oscillations provide extra metabolic energy and may explain why homo sapiens with its massive, metabolically expensive brain managed to survive. It is not excessively academically controversial to suggest that our experience of "consciousness" is fundamentally the result of imposing a largely self-serving narrative on a sketchily sampled series of instances of gamma onset with the brain put in a "null state" wherein it is maximally sensitive to incoming stimuli. Nor does it defy best academic practice to hypothesize that our experience of "selfhood" originates from an information-compression imperative; selfhood fundamentally springs from a cognitive immune requirement, the necessity to filter out irrelevant data often by labeling them as "ego alien" or in fact simply ignoring a huge amount of material that we should be aware of.

This means that our "consciousness" , self and will are largely fictitious. Again, this is not outré in current academic discourse and this author – among others - has published peer-reviewed material supporting this hypothesis. That said, it is surely natural to want a more veridical (true to the facts) "consciousness" , self and will. One would have to become aware of the formative influences in one's developmental environment and indeed current culture, and much else in order to do so.

Yet that is not my principal point here; that stems from the brute realization that, outside a well-appointed tenured office at a well-endowed university, the more urgent imperatives that impinge on one, moment to moment, come from the forces in the larger society identified by sociologists like Durkheim, not from nuances of academic discourse. In particular, the ancient cultural reservoir variously termed "common sense" and "folk psychology" provides algorithmic compressions of complex social interactions that are indispensable in the "real world". To reject these tools would be folly on a personal level; on a state level, it would require a misguided totalitarianism compared to which Stalinism would seem a libertarian utopia.

And yet, as we talk about "common sense", we refer to items processed by the brain. Otherwise put, reality is relative to consciousness in one sense, but transcends it in a more important sense. Alternatively, the most phenomenologically pressing facts will always be about being-in-the-world (Dasein), not being-in-the-academy.

So far, the above might read as yet another lifelong academic desperately trying to reassure himself that his work has some consequence. However, I believe that I may be

making a more important point; the hypothesizing of a realm of knowledge that relates to our lives, moment to moment, and yet is consistent with our best current academic guess about our nature. To refuse to countenance this hypothesis is to yield acres of critical ground to the "new age" and to charlatans of all stripes. The two extremes of "eliminative materialism" (accepting only the science, however incomplete and uninformative in the millenniar hope of enlightenment in the future) and irrationalism are both unacceptable.

What I propose, then, is that we should continue to insist that the academy continues to pursue objective knowledge with rigor and honesty; we are, after all, paying for it with our taxes. Every single modern attempt to ask the modern academy to do more, by delineating the nature of subjectivity in a fine-grained and yet comprehensive way, has failed or been diverted from psychology to philosophy, a classical way of kicking the troublesome upstairs where one cannot hear it complain. It seems appropriate to suggest that, outside the finer achievements of the the humanities which need to lose their postx obsessions, it is not appropriate to ask the academy to go this extra kilometer. In particular, no academic psychology, whether neurally based or not, will get us very far, though it is appropriate to mention the existence of more advanced subjective states than "consciousness".

Where then? Let us return to our notion that "consciousness" reflects gamma synchrony. Surely we wish to hone our "consciousness", moment to moment, life situation to life situation? It seems to be that the first step is to observe oneself in these different life situations. Is one lying? Being inappropriately deferential, contemptuous, afraid, confident, angry, and so on? What is left of oneself from this wrenching analysis?

Because many true religious thinkers would argue that this is really the beginning of the religious quest; those on the perennialist school would argue that traditionally religions are a codified set of practices to allow one to acquire being for the remnant of selfhood left over from this excruciating self-examination. The fact that religions today are in general merely debauched versions of what was created by their founders is irrelevant; in fact, each religion was set up as a response to a similarly debauched situation.

Why indeed call this path a religion? I would prefer another name; however, I can think of no other that suggests that the task of integrating oneself across many contexts is sacred and immensely difficult, as self-serving narrative begins immediately even in those few of us who have performed feats of great courage and charity. For the remainder of this section, I will outline the metaphysical background consistent with some current scientific best guesses. It will be re-iterated in the course of this paper.

As of 2011, it is known that coherent quantum states can exist in biological systems (Ball, 2011); while their spatial extent is literally minuscule, it does seem to be the case that they would persist better under a regime of gamma phase coherence than its opposite. Consider then this hypothesis; the flight that Plotinus and others describe from the alone back to the alone is the reinstatement of a non-classical probability regime in the cortex. This can be sustained by practices that we call meditation, having been initially attained by the practices of action, thought and love described in the religious literature. The unspeakably faster and more complex urban lives that the majority of humanity now live require that self-integration requires some discipline.

This too may help the physical environment; instead of a "vertical" attempt to realize ourselves through exploitation of the biosphere in new products, the notion that our subjectivity is more veridically experienced through a reflective path should be institutionalized through whatever means are appropriate in politics and/or civil society. The new millennium generation is as compelled by imperatives about the physical environment (recycling etc) as they are by texting and Facebook.

SECTION 1

1.0 Introduction

It is not unfair to say that "religious" and "theological" are epithets in our contemporary rational discourse, a good-natured step above "racist" and "bigoted", but a warning shot below "woolly" and "hand waving". Stuart Kauffman (2008) has boldly entered this cockpit and attempts a remarkable rehabilitation of God considered as the creative ethos of the cosmos. Not a personal, omnipotent, omniscient God, mind you; yet Kauffman is not insensitive to the charms of the Semitic God's presence. In fact, Kauffman has arguably opened a veritable Pandora's Box, and this first section will look at the consequences.

For Kauffman's eminence has meant that many reviewers have come out as long-term closet theists; otherwise put - and Kauffman comes close-we advocates of evolution should no more cede exclusive use of the word "God" to fundamentalists than liberals should cede "freedom" to the Tea Party. That said, it is the view of this writer that Kauffman would have benefited from a non-British philosophical formation, one that found correlates in what he was attempting in Hegel or in Plotinus. This first section is largely an attempt to create such an infrastructure, and proposes consideration of subjectivity in the context that Kauffman's brandishing of quantum coherence prohibited.

Kauffman sees his work as an essay at the "reinvention of the sacred". Of course, as Durkheim pointed out long go, the sacred is reinvented continually, and the numinous objects change from consecrated hosts to taboo crop circles – and indeed Monty Python's famous "holy hand grenade". What is needed, in these terms, is a specification of the sacred that does not offend our reason, and is socially salutary. Given the complex power relations in our contemporary society, self transcendence is often achieved by repealing laws that are man-made, as by - to take one example of emotional education -the distinction Needleman (2011) makes between being "humbled" and "humiliated", with only the former leading to God. Of course, Needleman has been attempting to do the same as Kauffman for some time, but in a religious context. Needleman argues that his mentor Gurdjieff, like Kauffman, introduced to the world a new concept of God.

Similarly, as Facebook regularly reminds us all, Kauffman has more friends than he knows. The mystical traditions in the discrete religious histories that Baha'ullah perceptibly called the Semitic and the Aryan converge on the concept of ultimate reality (Stace, 1960) that represents the formless quantum vacuum that quantum physicists and their new colleagues in cosmology deal with daily. Thus, to take one example of many, the late mediaeval Rhenish mystic Meister Eckhart has been written about, without qualification, both as Hindu and Buddhist (ibid). Problems arose when God became Yahweh, a projection of the social order, as Joseph Campbell correctly hypothesised; the reaction from the contemporary esoteric Judaism was apparently to ask whether this new manifestation was equivalent to the old manifestation labelled "nothing" (Ayin - Exodus 17:7), a higher manifestation that believers in our quantum vacuum at the root of the nature of things would find congenial.

The first port of call for a historically minded Kauffman might have been Plotinus as we shall see below. As it happens Kauffman instead at least implicitly proposes the following schema :

I the physical II the biological III the mental IV the social

He is at pains to argue against any type of reductionism from one level to another. In fact he argues that his schema is not an inventory, but an ontology, as well as an epistemological schema. So each category is ontologically as well as epistemologically distinct from the category below it and has new laws which apply to it as well as inheriting restrictions from the categories below. To those of us with training in computer science, this is not "ontology" as we meant it, which would simply be inventories with hierarchy in Kauffman's conceptual framework.

Kauffman refers rather to different qualities of being, the emanation of a transcendent yet immanent evolutionary "creative spirit" which he calls "God". And so we have a reinstatement of the ancient concept of a great chain of being but with no process of emanation. In fact Kauffman - insofar he addresses the issue - is an emergentist who thinks also that the laws of chaoplexity cut across all levels of his ontology. Yet he is explicitly anti-reductionist. The self-confessed failure of the great Stanford polymath Patrick Suppes (2002) to produce a single reduction to set theory of the diverse scientific phenomena treated in his vast book would not surprise.Kauffman.

With Plotinus (Stace, 1960) we get the following emanationist schema, one that proposes a descending from the absolute. Plotinus was undoubtedly inspired by Indian thought and his schema also shows parallels with the Tao Te Ching;

I absolute II Nous III world soul IV matter

In fact, in a move that we will see again soon, Plotinus claims that we as matter can again ascend to the absolute, the alone to the alone. Hegel may be interpreted as an emanationist with a focus on political organisation, and Marx as one with a focus on economic relations.

In this context, the poverty of emanation in Charles Darwin is noticeable;

I Biosphere ------ natural selection------> II conscious organisms

However much we dress Darwin up, we really cannot take him out. As I analyzed in my (2004) treatment, Dennett claims that Darwin's theory is an emphasis on the algorithmic, and immanent order can be explained by world-trying until a world in which order arises emerges. This is a rather generous reading of the Victorian's work. Margulis et al (2002) point to the huge role in evolution of endosymbiosis – the capture of one organism by another, with our mitochondria the classic example, enslaved to become an energy provider for the cell. Other mechanisms include Hox genes, alternative splicing and so on, well beyond the reach of Darwin's ethos of small, incremental changes as I previously (2008) pointed out.

Likewise, Margulis et al. (ibid) claim that our current earth shows signs of far-from-equilibrium dynamics conducive to macroscopic life that they follow William Golding in terming "Gaia"; the biosphere without Gaia is capable of harbouring little more than bacteria.

There is a more substantial point to be made. Kauffman is proposing an ontology and evolution without any emanation of spirit. I believe his insistence on ontology, as distinct from epistemology, to basically be well motivated, and in this he follows that

other neo-Gurdjieffian Fritz Schumacher (1977). What Kauffman does not make explicit is that the actual emergence of something new (like life) with new laws should be made distinct from situations where the human mind must change its construals (like quantum mechanics). This in turn should be distinguished from situations that I call "anthropisms" where, for example, the resonant reactions involving beryllium that give rise to carbon were predicted. This prediction was made by Fred Hoyle, - ironically a proponent of the "steady-state" universe and a debunker of his own neologism "big bang" - on the basis of anthropocentric data; the very fact that we are here means that carbon must somehow have been produced. Let us label these E, C, and A. If an advance recapitulates a previous advance, we call it "R". To anticipate much of the argument of this paper, what we humans can hope for now is a set of R's and C's on our own psyches and societies as the next, intrinsically sacred, step in evolution. We are not in a position to know whether something truly new thus emerges.

Kauffman correctly points out that many of the elements for life are available in the physical world, before life's attested emergence; organic molecules (including alcohol) in interstellar clouds, membranes, self-replication before DNA, and so on. What Kauffman fails to acknowledge is the possibility that subjectivity should be part of the worldview, which is now a Weltanschauung as I argued in 2004, because it is no longer simply a third person description.

The difficulties we are about to encounter are in this writer's experience best exemplified by sources such as the distinguished scholar, Huston Smith (1992). Smith inveighs against the fact that for science there is only "one realm of being", the third person "objective " description, then proceeds to give precisely such a description of how he sees things REALLY are; it is a classic third person account. It seems to this writer that we must honour science's descriptions, but that this indeed allows space for delineation of subjective experience, and indeed the role of that experience in Nature, that does violence neither to science nor to the millennia of cultural formation that each interaction we have with another human being exemplifies.

Similarly Kauffman's view of the social is indeed chaotic, with English common law his ideal and order emerging naturally from it. This notoriously did not work very well in Iraq where the New World Order attempted to supplant a civil law system with English common law. Hammurabi may still be revolving in his grave.

Moreover, people are capable of establishing astounding moral heights, even absent an explicit legal framework, perhaps indicating that something in reality resonates with them. The single positive consequence that emerged from the slaughter of seven Trappist monks at Tibhirine monastery, depicted in the movie "Of gods and men" and in Kiser's (2002) book, was the coming into public awareness of the work of the

physician monk, brother Luc, who at 80 years old and severely asthmatic was still seeing over 100 patients a day free of charge. Moreover he had given up wealth as well as a very promising career in hospital medicine, and is depicted - presumably accurately – as an exemplar of what Christians call a "sign of contradiction", one that will resonate through the ages to young people seeking a direction in life.

The effects of appointing a too young conservative to the Papacy in the late 1970's will not be undone in our lifetime; yet the fact remains that the life led by Luc and the search conducted by Thomas Merton within Cistercian spirituality (Mott, 1993) forever will resonate. While the prior of Tibhirine, Christian de Cherge, might indeed be appropriately described as the kind of general that only the idly curious would follow into battle (Kiser, ibid.), the goal of the monks in staying in war-torn Algeria was not to seek conversions, but to atone for France's colonial past in a show of love for the neighbors that their presence was protecting. That two groups of followers of the same, Abrahamic God should be at daggers drawn is indeed an indication of how vicious religious sectarianism and colonialism both are. It is worth saying that only religious practices that lead to silence, rather than more words and song, are worth even considering, let alone practicing.

The scheme which most comprehensively addresses all these issues is due to a Greek-Armenian, born around 1870, who became known "Gurdjieff". Moore (1990) writes beautifully about Gurdjieff's ecological concerns (20-21, 343-344). What he does not mention is that in the Gurdjieff system both environmental destruction and human lack of development are inevitable without massive effort. The premise of "the work" - as it is known - is that we are already functioning as nature intended. Unconscious automata, we are warming the Earth sufficiently for it to become like the sun. It would be anachronistic to point out that Gurdjieff would perhaps use the planet Venus as his endpoint for the current trajectory of earth, as many environmental scientists are proposing, had he lived later.

Recoiling in shock at revolutionary excesses, post-enlightenment French thinkers sought cosmologies and forms of life that closely resemble what is about to be proposed in this paper. For example, the apparently scientistic Comte produced an evolutionary schema that did indeed propose a "positivistic' age; and then suggested that we recapitulate to an age of cult, of emotional fervor in worship. The Saint-Simonian movement attempted to reform society along lines being proposed here, before withdrawing to become an apparently risible monastic community. The evolutionary schema and withdrawal from the world was echoed by Gurdjieff, and it is his exemplification of these ideas that we shall consider here.

Gurdjieff mixed with this some sub-Joycean neologisms, bizarre behaviour, and occasional manic humour. Yet the central idea is very powerful; emanation proceeds from the nexus of possible worlds to earth in the manner of the sending of that of major scale. Where a semitone interval is required, a shock - which we call E or A in our schema - is needed to allow its traversal. Remarkably, Gurdjieff proposed - at least in his interpreters - that ours was one of many universes that could exist, a multiverse theory before its time. This is a rough outline of Gurdjieff's schema;

Do Si La Sol Fa Mi Re

I God (All worlds) ....shock ...> II Universe..> III Milky way >IVSun.> V Planets .shock> VI Earth . organic life >Moon

Gurdjieff, as interpreted by Moore (1990) puts it simply; "In order to fill the interval...a special apparatus is created...organic life on earth". Otherwise put, we are on earth to serve the purposes of the moon, a kind of "The matrix" situation as I pointed out previously (2004)!

In this schema, we are unconscious automata who only fantasise that we have consciousness, will, and selfhood. Gurdjieff provides techniques to develop these three processes within ourselves. He argues that in doing so we are actually contradicting the requirements of nature. In the next section, we are going to see evidence that Gurdjieff's grim analysis of our inner life -such as it is – seems quite close to the mark. The hypothesis that humanity is doomed to destroy the biosphere simply by following dictates of nature also seems to be reinforced by the fact that even before China and India come to Western levels of industrialization and environmental destruction, we are already in deep trouble.

Had Gurdjieff lived in the late 20th century, it is likely indeed that he would use the concept of Gaia, an attested mechanism within the biosphere which keeps atmospheric gases at far from equilibrium level while also keeping the seas at an alkaline level. This mechanism has failed before during the "Snowball Earth" period 600 million years ago and there is every likelihood that it will fail again. Likewise, the coincidences explained (away) by the anthropic principle that facilitate our existence have yet been insufficient to prevent millennia of human suffering, due both to moral evil and design flaws in human biology; there will always be work to do, and any religion that proclaims a God that is omnipotent and omni-benevolent will spend a a lot of its time repeating this absurdity - my 2004 book discusses various approaches in theodicy, of which outright antinomialism makes as much sense as any other. So therefore the efforts at full human development as a protection of the environment are moral imperatives, and

need an institution for their continued fostering. Somehow, constructive and positive moral action seems to put us in touch with the Good, true and beautiful, and the idea that we are somehow completing creation has a certain resonance

McBay et al (2011) give an indication of just how high the stakes are here. Their book is a "how to" and indeed "why to" manual for destruction of the entity they see at the core of our current environmental Holocaust. That they call this entity "civilisation" and that it is equated with the historical consequents of its Tigris Euphrates forebear must give pause.

I do not wish to give this book any more respect than deserves; it comes close to glorifying violence, has an almost fascist obsession with death, and supplies no techniques even for the basis of contemporary activism; monitoring changes to one's IP address, detecting spyware, and encryption/decryption. Secondly, as someone who was rather closer to the IRA than they ever were, I must comment that their upholding of Sinn Fein/IRA as an exemplar (180-182) is both laughably naive and deeply troubling. Alternatively put, Terrence MacSwiney's hunger strike to death compromised British rule in Ireland more than any military action against British rule; the practical recission of the instruments of British common law(so beloved of Kauffman, and such an invitation to make things up as they go along, absent a written constitution) was completed by public rejection of the colonial court system and the creation of autochthonous courts; the use of force by Michael Collins was pointed at ensuring that "normalcy" could not return, as there was no chance of victory in pitched battle. Far from destroying civilisation, we need to emphasise civilised values and human development in a way that is environmentally sustainable.

A flawed emanationist/evolutionary dynamic

There are certain things Gurdjieff got absolutely right;

1. A realistic, if apparently radical, appraisal of the relative importance of "worldly" and "spiritual" issues for those who have reached a certain stage of questioning. In brief, the worldly is treated as a set of random events with human automata as their agents. Until this state of questioning has been reached, this prescription is dangerous.
2. An evolutionary dynamic - which yet stresses that human development past a certain point is rare.
3. The provision of the prospect of a spiritual home; cosmopolitan, yet gendered, welcoming and alluring, for seekers.
4. A cosmology, inconsistent with modern science though it is, as we shall see.
5. A "greater psychology", starting from an already intuited sense of what one's abiding identity actually is.

6. An insistence on scientific verification, if honoured quite as often in the breach as in the observance.
7. A hierarchy of value, though phrased in chemical terminology inconsistent with modern science.
8. A sense of the sacred, though his occasionally shocking public behaviour and his use of the "way of blame" and desire to put off dilettantes belied this.
9. The notion that states of the body, including health, could be felt and altered through a properly attuned consciousness.
10. Similarly, the old heysechast idea that the cosmos could reveal itself to sensation.

A salutary reconstruction of Gurdjieff would make clear the limits of scientific investigation, and in particular its inability, even in principle, to educate subjectivity. Subjectivity, it would argue as before, is elucidated in interaction with the world in all its forms; business, the arts, ordinary social experience. It would use Goedel and latter day quantum mechanics to explicate the limits of cognition. It would dispense with the nonsense about the inferiority of "Western" art, and elevate the likes of Beethoven and Brunelleschi appropriately.
Gurdjieff's system rightly emphasises;

- an evolutionary cosmology, which needs to be restated in the context of current knowledge.
- a hierarchy of art, in which pride of place is given to "conscious" art that is technically accomplished, self-aware, and capable of emotional range. He erred in excluding "Western" art.
- authenticity in one's dealings with oneself and thus with others. His psychological system is good if one assumes that there are indeed higher states of subjectivity possible.
- the possibility of conscious access to healing processes in oneself and others, which is current cutting-edge science and a useful complement to the biomedical model.

Let us begin with the cosmology. Gurdjieff borrows liberally from Kepler, as well as Plotinus and other forebears, with the sun's being identified with "God the father" in the latter and the organic theory of planet-creation in the former bordering on the delusional. Classic Greek culture, by contrast, already had a relatively veridical model of the solar system, and stunningly accurate estimates using elementary geometry of the circumference of our Earth, as well as the Earth's distance from the sun and moon. It is quite remarkable that otherwise sophisticated intellectuals (Frank Lloyd Wright, Jacob Needleman, Peter Brook, A.R. Orage, P.D. Ouspensky, and EF Schumacher, inter alia) from the early 20th century from now have publicly identified themselves

with the Gurdjieff system, which is mercilessly and hilariously dissected by Peter Washington (1993). Alternatively put, the public intellectual self-immolation of these great figures speaks volumes about the urgency of the issues that Gurdjieff's system, if clumsily and bizarrely at times, deals with.

The emphasis on art that is accomplished, self-aware, and capable of emotional range gives a hint about the appeal of his teaching. The corruption and degradation of culture that have accompanied the advent of mechanically reproducible art is, at this point in history, the stuff of legend. Yet Gurdjieff's "Asian" (read Orientalist in the Saidian sense) aesthetic is as wrong as his 19th century biochemistry is muddled, to put it kindly. Yet his emphases on the fragmentation of self, and the fact that he anticipated the links between the nervous and immune system that are now accepted as received wisdom, again indicate why his ideas received quite a welcome from major figures, while undergoing the mockery of Washington (1993). What is unassailable in Gurdjieff, like Merton, Brother Luc and Charles de Foucauld, is the ripples set in motion by the intensity of his search.

Washington (ibid) is similarly scathing about Madame Blavatsky and the entire theosophical movement, with the single exception of J. Krishnamurti. The religious, intellectual, and emotional ascesis of J. Krishnamurti's work is redolent of Gautama. It might be argued that J. Krishnamurti goes several stages further even than the Buddha. Yet many of the moves he makes have not been made explicit. While Gautama eschewed the authority of community, church and state – and in doing so renounced the hold that religions like Catholicism claim on all of these – there still remains the notion of a single, unified self with which he, Gautama, can enter into dialogue and eventually bring to enlightenment. (However, later Buddhist philosophy renounces this "self").

J. Krishnamurti brackets even this self; in fact, the enemy within is what he calls "thought". Where this writer lives in Berkeley, California, there is a humorous bumper-sticker that reads "do not believe everything you think"; J. Krishnamurti's (1979, P. 1) message is, essentially, "do not believe anything you think":

> A meditative mind is silent.....it is the silence when thought – with all its images, its words and perceptions – has entirely ceased. The meditative mind is the religious mind – the religion that is not touched by the church, the temples or by chants.

The connection with Advaita Vedanta is admitted by J. Krishnamurti himself; indeed, it could responsibly be stated that this is the root of the current teachings of Deepak Chopra, inter alia. Yet to denigrate thought will never do; what J. Krishnamurti surely meant was the "empirical" self, the self that comes and goes. However, what worked in

the mainly pastoral societies when the Vedas were being written is unlikely to work in our current chaos. And with that we can return to the science.

SECTION 2: MEDITATION, CONSCIOUSNESS, AND THE NEXT STEP IN HUMAN EVOLUTION

2.0 Introduction

This section builds on previous published work in theoretical biology and experimental neuroscience by its author. Specifically, it is taken as established that the impact of evolutionary dynamics in phenomenology is experienced primarily through the computational artifacts that we call our "selves", and that such selves are multiple in each individual. These selves reflect above all the cognitive immune reaction, a reaction that breaks down in such syndromes as autism and schizophrenia, and attribution of often fictional agency to oneself with which nature has endowed us for engineering purposes. Yet in meditation, as in moments of undivided consciousness, this self-system break down to be replaced by a single coherent observer.

This section starts with a short comment on the current state of neuroscience, with remarks on the often exaggerated claims made by practitioners of various techniques. It goes on briefly to examine what phenomenology would seem to require of the data, and whether these requirements can actually be met.

It is cautiously proposed that techniques which reveal discontinuities occurring in the order of tenths of seconds may be most fruitful, and recent ECOG work by the author is, again briefly, summarised. While selves might be said to be manifest in the "dark energy" that comprises the great majority of the brain's 20% metabolic demand on the organism's total energy, the meditative state's benefits are perhaps partly due to the often sustained reduction of this demand. The paper continues by speculating on what evolution might want to achieve by this phenomenologically "selfless" and metabolically "zero power" state, and what social structures and experiential disciplines are appropriate to engender this state.

To do so is to infringe on the area traditionally occupied by religion. It is argued that the human religious impulse will survive the most robust attack by scientism, including eliminative materialism, and it is better if we can find ways of channeling this impulse into streams that are non-contradictive of fact, non-dogmatic, and inclusive of the many domains of human existence that we ourselves negotiate on a daily basis.

2.1 Neuroscience, logical atomism, and the new phrenology.

Vul et al. (2010) recently published a paper arguing that many fmri "findings" are premised on inappropriate statistical models and/or analysis. In that they are in tune with a new trend of skepticism about data-driven science

Fmri's new phrenologists are also logical atomists, over a half-century after Wittgenstein refuted this earlier position of his once and - one suspects – for all (O Nualláin et al., 2007). The frontal lobes are increasingly being mapped out for voluntary action under various regimes, and indeed feelings of awe; the idea that the locations chosen might be at best hubs (a la Dallas Airport) seems to have escaped the functionalists in their rush to publication. More troublingly, the project itself seems absurd beyond words; to catalogue a variety of experienced dispositions and look for cortical locations for them without first coming clean that this is what's happening is to risk scientific malpractice of the worst sort. Moreover, the really causal mental phenomena that constitute the innards of our mental machinery may be using not just time-tolerances in the thousandths of seconds, but tensor and category theory operations as described by Hoffman and Kime in (O Nualláin, et al., eds., 1997). They could not be further from the verbal projections of unschooled phenomenology that constitutes much current fmri interpretation.

Other current fads exploit, for example, the recent discovery that there do exist, after all, neural stem cells. So the prescription is to go exercise and generate new cells. There is no question that exercise can alleviate depression, and the notion that depression is primarily a resource-conservation strategy by the brain, one in which new neurons are not being formed, seems to this writer plausible. As we shall see, the kind of techniques used resemble those of Gurdjieff (Ouspensky, 1977); exercise, dance, and so on. Yet the time scales involved are in the order of weeks and months for any noticeable change.

It is uncontroversial in the extreme to suggest we need time sensitivity that is one or two orders of magnitude greater; it does seem to be the case that consciousness can be causal in the tenths of seconds, and that many critical neural events require only hundredths or thousandths of seconds. Specifically, work on microgestures (O Nualláin, 2010) indicates that a facial expression sustained for only 0.04 of a second, well below the sampling rate of consciousness, can affect our evaluation of a person. In turn, the sampling rate of consciousness can be assessed by examining what experimental subjects can actually report; to eschew pseudo-precision, and to anticipate some of the discussion below, it seems to be about a tenth of a second.

Let us now follow the later Husserl and examine some salient phenomena of experienced mental life. It is established from consciousness studies as certainly as any

other fact within that disciple that a great deal of our mental life is the result of "change blindness" and other forms of projection and filling in the blanks. We are constituted of legions of "selves" that are experts in particular micro-contexts; remarkably, each one claims sovereignty over the entire organism while it is active (O Nualláin, 2010) . Alternatively put, the feeling of selfhood itself is an artifact of immunological cognition; when we are engaged in any cognition, we consciously sample a wave packet as it transitions through the basins of attraction that constitute its states.

So what does the transmission of a wave packet, a progression of the reaction incited by an incoming stimulus in our work (Freeman et al, 2008) involve subjectively? For a start, work on microgestures indicates that we process data that do not enter focal consciousness. I hypothesize that the transmission of a wave packet involves tacit experiences of self as particular contexts are visited. The attractor landscape requires several preset trajectories, which we label modus ponens, story structure, and so on. Other, more gravitational influences on our cognition involve us predicating agency and moral rectitude of ourselves, often wholly inaccurately.

We master many cognitive domains and, barring disasters like Alzheimer's, manage to keep a lot of this knowledge intact. Whatever brain processes preserve this knowledge, they are remarkably robust. Following Piaget, Polanyi et al., many of us have outlined a model for the development of consciousness which see us exploring a domain by initially being overwhelmed by data. Think of the classical example of arriving at a new airport, where it takes some time to orient ourselves. Contrariwise, the child may assimilate all this data to an inauthentic notion of self and will begin to differentiate subject from object only under pressure. As we all know to our cost, many people (pace, Piaget) fail to differentiate subject and object in many contexts, and become bores, or worse.

In any case, both the child and the traveler need to develop a more veridical notion of the subject-object relation. The eureka moment achieved, it is preserved by a marking of self versus non-self for that particular context. Our cognition is structured by tens of thousands of these markings, and we have archaeological layers of them in our psyches. Their working has recently been attested by the fact that we can process microgestures (Pease, 1988); indeed, a technology of identification of suspects is now developing based on these tacit cognitions – whether for good or ill only time can tell.

Essentially, then, the content of our consciousness is a runaway train. What many authentic mystical traditions do is alert us to this, and in particular ask us to witness the process of selves coming and going in our psyches (Ouspensky, 1977; Krishnamurti, 1979). The eventual aim is to be able to identify ourselves as pure observation at a level

higher than these empirical selves. Yet the cost of this is one that few feel like paying; total renunciation of those needful identifications to family, profession, and belief that we need to function in the world.

What I have argued for (2006) is the possibility of the development of a spiritual path that uses this most immediate and paradoxical fact about ourselves as a starting-point. It would see the role of the path as alerting the subjects to their intrinsic subjectivity through logical paradoxes exemplified by Goedel, where the careful observer can see himself believe two mutually incompatible facts in quick succession, and certain types of movement which free the subject from blocking behaviour by the organism. Dogmatic beliefs aside, it is likely that higher human function would result from identifying as pure awareness for some time each day. It can be argued that in his highly verbal way, this is what J. Krishnamurti (1979)was trying to achieve; and, of course, the here is also the starting-point for the Gurdjieffian Work, which is far more broadly based, and, perhaps inevitably, far more incorrect in its details (Ouspensky, 1977).

The discipline of meditation involves identification with a level of observation at which this fragmentation becomes salient; the religious infrastructure of church and sangha allows a space, both ontological and physical, within society's hubbub wherein this state can be realized. This state is devoid of worldly ambition and concerns. Yet the question remains; what role can it have in evolution? If, as suggested in O Nualláin (2007), selves are themselves a form of "code", why dissolve them in this way? And what is the role of the kind of Weltanschauungen that religions exemplify?

O Nualláin et al (2011) hypothesize that consciousness, as we experience it, may be a "spandrel", an accidental consequence of the necessity to attenuate the brain's metabolic demand on the organism. For this attenuation, the brain began to operate with a "shutter" a few times a second (Freeman et al, 2008) wherein the cortex went into a "zero power" (O Nualláin, 2009) phase of miniscule metabolic demand, if for a very brief period.

Gregory Bateson (1972, 318) famously commented on what he considered the absurd notion that there is a delimited thing called the "self" that cuts down a tree. Indeed, that narrative self IS an artifact of a tenaciously-maintained narrative that puts oneself at the center of the universe and attributes agency and consistency to oneself, often wholly inappropriately. Nevertheless, the tree is just as felled afterward as it would be, had the self sprung from the ground like mushrooms. In fact, the engineering ability bequeathed by this narrative self is exactly what can destroy the biosphere's ability to support macroscopic life (Gaia) – or alternatively, preserve it.

One of the themes of this paper, therefore, is that our evolution, as the preservation of Gaia, is now in our own hands. There will be no stone tablets, or twitter feeds, on how to save the conditions for intelligent and sustainable life on this planet. We ourselves must create the resources - moral, intellectual, and technological – to do so. That is what Gurdjieff began to attempt to say a century ago in his cryptic and marginalized way.

2.2 A brief comment on evolution and religion

Evolutionism and creationism are slugging it out in the US; the latter has taken the alias of "intelligent design". Indeed, one of the critical document discoveries in the recent Dover trial was one wherein it was found that the "intelligent design" moniker was indeed used consciously by the creationists as a cover. It can, this writer believes, consistently be argued that the heat of the debate is due to the necessity of maintaining a "moral" basis for the expropriation of the northern part of the American continent from its autochtones, which keeps the impulse behind fundamentalist Christianity alive. The impulse gains further traction from the genetics illiteracy of Darwin himself, and the unassailable fact that his supporters fail to appreciate the many explanatory gaps in their arguments.

O Nualláin (2008) suggests some new foundations for biology, and evolutionary theory in particular, inter alia the following;

1. Darwin must be sacrificed for the sake of the stupendous theory of evolution which is emerging, which draws its evidence from the subatomic as from Hox genes.
2. Some kind of anthropic principle will always be invokable to explain the origin of life, of multicellularity and all the other major transitions as it is for apparent coincidences like the value of the fine structure constant.

In the beginning, as envisaged in that paper (ibid.) are the laws constraining nature (particularly thermodynamics, and probably network theory), the laws allowing it unexpected creativity (handled by chaoplexity including catastrophe theory), the biosemiotic laws of syntax, consciousness without subject/object differentiation, unlimited energy, the possibility of time/space,

Evolution, in this scenario, occurs first in the physical world, where phase transitions allow the creation of planets, laws including stochastic resonance help in describing their mutual gravitation, and eventually chemistry describes the metabolic cycles created. At some point, the metabolic cycles become transcended by the entrance of codemakers, and the possibility of DNA-RNA replication enters nature. Once codes acquire metabolic power, a new possibility enters nature – that of deception, of lying when recreated at the human level. Now life and biochemistry emerge. Several billion

years later, humans emerge, and the relevant code for their social interaction is a "socius", a social self. The human task is to realise after sustained interaction with the world, which will beget a multitude of pseudo-"selves" in one, that one's real nature is observation. That realisation is the essence of soul. In the meantime, a life that increases recursive ability, conscious control of metabolism, and emotional stability will also facilitate success in the world.

There is a vast space left open to new religious movements by a combination of an immoral society, the linked issues of ethical, aesthetic and moral relativism, and the refusal of science both to engage reality with the whole psyche and, much more mundanely, exclude from its ambit much data and styles of thought. Thus, aspiring gurus can point to the fragmentation of the self, and use this as a lever to undermine the whole psyche for their own benefit; conversely, religious traditionalists can point to the moral chaos in our society and, with some moral force, argue for old time religion. As a group, a religious entity can convene to help to turn the ordering principles in nature toward good, insofar as they can with their limited resources.

On a positive note, questions like;
"Where and how did the cosmos originate?"
"Where and how did life originate?"
"Where and how did humans originate?"
"How does the biosphere self-regulate to support life?"
produce wonder in most people. Indeed, it takes a process akin to metaphysical censorship to stop this access of wonder, a refined emotion that historically has been just as much central to religion as social control.

The psychic reality of our fragmentation is dealt with in opposite ways by the two Krishnamurtis (Jiddah and UG). Gurdjieff steers a path between the two ; his genius is the certainty with which he posits the universality of his system, as in his range of data. We quite definitely need a cosmology, psychology, ethics, aesthetics, and epistemology and he provides all, if in at times utterly nonsensical form, as in his science. His aesthetics incorrectly ignores and indeed denigrates the monumental achievements of European civilization.

The finer aspects of the arts, sciences, and social relationships need to be defended with moral force. We need to defend Beethoven and Mingus against our contemporary trash, just as the tendency of science to jump on the next big thing like the human genome project and effectively disenfranchise biochemistry needs to be resisted. Thus, there is a role for an organisation, international in scope and originating in civil society, which preserves salutary impulses within the arts, sciences, and indeed politics in the name of authentic human development. The early 21st century attack on US

democracy from within in the name of an enemy without needs further to be resisted. As the success of popular science has shown, the central arguments of science are comprehensible to intelligent laypeople.

With respect to subjectivity, it is increasingly clear that there is immense power in concepts from folk psychology, and they seem more like useful compressions of data than societal fiats. In any case, folk psychological description of inner states will always win in the marketplace of ideas. A salutary example is the notion of freedom of conscience, which effectively sets ultimate parameters for one's political being in a free society, and logically precedes any neural data. In the same vein, by prohibiting the imposition of a state religion, the first amendment rightly destroys the possibility of theocracy.

That said, there will always be a market for new religions. Coupled with the imperatives mentioned above toward a substantive ethical, intellectual, and aesthetic engagement with life, there is also a need for something that is environmentally sustainable. The aesthetic impulse should include vectors toward a life that is much more emotionally free and full than what we have. That established, a morally stable society will seem much more natural.

Coming from a strong engineering background (there is no reason to disbelieve his claims about working on railway engines) Gurdjieff found it useful to talk about humans as machines in a classical Victorian sense. Stimulus-response psychology comes from the same impulse. It talks, it thinks, it cannot do. We can at best catch ourselves in the act.

Several paradoxes are inescapable. In evaluating scientific views of how we function, we compare them with what we know of the real world and our relation to it. It will remain effectively a political, not a scientific decision, to abandon the wisdom of our folk psychology. Concepts like "maturity" and "decency" may perhaps never enter the scientific lexicon, but remain the finest achievements our knowledge of ourselves. Contrariwise, Gurdjieff's system with its cosmology, psychology and detailed analysis of the psyche and organism can perhaps usefully be rephrased using some of the concepts of today's knowledge.

2.3 Neuroscience redux and conclusion

In a set of papers (O Nualláin, 2008, 2009, 2010 and forthcoming and O Nualláin et al 2011) this writer outlines some empirical neurodynamic work, and interprets it with respect to consciousness, selfhood, and meditation. To step back for a moment, what he is doing is mapping some empirical work onto phenomenological facts that have been known for several millennia. To wit; there is no unchanging self, outside some restricted

social contexts that can sustain it; this, above all, is the lesson of the wilderness that religious neophytes were sent into. Much of what we experience as self is the result of subliminal processing; specifically, the processing of microgestures can be explained with dynamical systems approaches to the brain, which allow for the fact that an entire cortex can be destabilized by a few photons, a few molecules of scent, or other stimuli lasting only a few milliseconds. To continue; we narrate to ourselves continually, giving us the illusion of a self continuous in time, which is agentive and consistent.

Moreover, we will not ever trust a fully reductionist account of our mental states, which is likely to involve mapping to a Grisha Perelman-like mathematical nexus of topological theory, except more complicated. Folk psychology is here to stay, if only because society, rightly, will not trust neuroscientists to make all decisions for it. The fact that people will remain making sense of their lives, taking a little science, a little family experience, and much personal judgement will forever leave the door open to sense-giving activities like religion. Conversely, the pointlessness of religion's ignoring science is exemplified in a an age-old theatre of autos-da-fe and show trials. In this writer's opinion, it can consistently be argued that Gurdjieff and Ouspensky were on the right track after all; it is their science that needs updating. The ethos of search, and assertion of finer states of being reflected in appropriate art, allows the insights and sense of the divine that they exploited from esoteric Christianity, Vedanta, Sufism, and Tibetan Buddhism to be reconstructed in modern, urban society

In (O Nualláin, 2006), I outlined the notion of an experiential discipline, and how education of subjectivity can be facilitated with such disciplines as Feldenkrais, and indeed application of current modal jazz, the modern mandalas that cubist paintings exemplify, and so on. Yet all this cannot proceed in a vacuum; we need societal constructs as refined as academic tenure, together with the thousands of years of hard-won experience about individual freedoms, state and civil society, representational structures for due process, peace-making and - as has become clear since 2008 – regulation of the market, and possibly a root-and-branch definancialization of aspects of our economy for human progress to continue.

SECTION 3: A NEW RELIGIOUS SENSE

3.1 The third millennium Mind

To assert, veridically, "I am" while remaining non-contradictive of cutting edge science and the other finest achievements of one's culture requires Himalayan efforts. Let us now outline what Ouspensky (1977) might have included in the 21st century edition of his book. First of all, the prospectus for the school might have read as follows;

"Truth

Few "seekers of the truth" are really looking for truth. The end of our exploration is even more banal than arriving back at our starting-point and knowing it for the first time; it is the realization that our fundamental nature rests most securely as the act of observation itself, and cannot ultimately be achieved through anything in the world.

First of all, there are often psychological motivations for their ill-founded "search" - a desire to escape challenges of life that are going to recur anyway, no matter what cult they follow, pure laziness, egomania masquerading as a search for reality but actually a deeply-entrenched desire to subjugate others, using religion as an excuse.

Secondly, there are few real sources of truth in our contemporary world. Alternatively and perhaps better put, the diversity of narratives out there means that certainty will be bought only at the cost of debauching openness and indeed reason itself. Correspondingly, cults like Scientology maintain their hold by the practice of physical and mental violence.

Thirdly, truth is currently dominated by "science", a word meaning knowledge; again more specifically, its etymology connotes a (presumably correct) cutting of the world into categories. The mathematics associated with the most exciting discoveries in fields like physics are beyond 99% of us; yet they are indispensable tools in the search for physical truth.

Finally, to repeat; few "seekers of the truth" are really looking for truth. What they are looking for instead is a meaningful life in which their aptitudes and self-discipline are recruited toward a self-transcendent goal. Genuine seekers will not willingly give up their skill-set, nor the better part of their natures; they will, on the other hand, renounce money, career, sex, social status and much else if the goal seems worthy.

In the early 21st century, the energy put into fruitive work no longer ends in "fruitive" products; remarkably, people pay billions to create and maintain simulated farms on the internet. An economic collapse in the West led to money being redirected back to the very miscreants who caused the collapse. It is doubtful that popular culture

has ever been at a lower ebb. Universities are being colonized by corporations, and research monies are being poured into ever sillier and more fraudulent projects.

The old solutions have lost their lustre. Nationalism has been - rightly or wrongly – publicly discredited to the point that the expression of autochtones in cultural nationalist projects is now viewed as suspicious. Traditional religion has not recovered in the west from the Galileo incident, nor frankly should it be allowed to do so.

Yet there is much hope. The destruction of the biosphere has been slowed by courageous activism. Similar campaigns have ensured that most - perhaps all – scientific knowledge is available free on the web, with for-profit journals hiding only contentious and often evanescent findings True heroism ensured that freedom of speech and the democratic process have withstood a century of serious external threats.

It is possible to live a meaningful life without surrendering to a cult. Trashy popular culture can be avoided. One can forever top up one's knowledge, free of charge, from publicly available sources, as science indeed advances.

One first of all needs sufficient resources to leave traditional society. This path has existed as long as monasteries themselves have done so. These resources include money, but also a conscious rejection of the wiles of the world. These wiles must of course first be experienced. They do not include the desire for normal social intercourse with others as a responsible member of society – if one who does not subscribe to current political and indeed epistemological trends.

The day can be spent enjoying the products of tens of thousands of years of high human culture, maintaining one's property (cultiver notre jardin), creating edifying products, and attempting to live an ever more refined and renounced life. One's skill set will be used in full. To call this path "religious" is to say no more than it accepts the necessity of living – if for a brief period – at the margins of society in order to find one's true place in it.

The final goal, of course, is to inspire others to live such an environmentally sustainable and decorous existence – one worthy of the destiny of human beings.

3.2 A new guide for the perplexed

People search, and they naturally call what they're looking for "knowledge". Yet an effective monopoly on knowledge is claimed, with much justification, by the universities. Moreover, this knowledge is often couched in terms that are very intimidating – mathematical formulae, big words, and so on. This I have discussed immediately above.

What we now will focus on is the paradox that reality (as experienced) is relative to consciousness, and yet transcends it. So knowledge is ultimately third person, a set of

objective statements – of course! - and yet the external world keeps breaking into all hermetically sealed conceptual systems. In fact, this systems can exist only in the hothouse of the academy; outside the academy, they lose all force. Humans are drawn to belief systems – even spectacularly obviously wrong belief systems like fundamentalist religion – that can somehow inform their every moment.

We are in deep waters. Let's try and clarify one thing; third-person knowledge should be left to the academy, and nothing that we state should contradict the finer, stable achievements of the academy. Fundamentalist religion is epistemologically wrong, pure and simple. Conversely, the academy should be allowed to continue its explorations in total intellectual freedom, and without corporate or state interference. If the "official" academy is interfered with in these ways, there is plenty of space in western civil society for alternative academies, if necessary on the Internet.

Another path in our argument is opened up by the history of formal linguistics. It seemed at one point that a total description of language could be given by a grammar, and that this grammar could be programmed into a computer, which would then understand language. However, it quickly became clear that grammar only gave syntax; and attempts to capture "meaning" with semantic formalisms only led to another complex set of predicates, which also had to be interpreted. In fact, a new level, pragmatics, required the understander actually to have a critical property of consciousness as the literal "meaning" of statements was often incorrect.

So far, then, syntax, semantics, pragmatics; but any great literary artist will play on the reader's experience of the world in ways meant to be edifying. The artists will try to recruit the reader's moral sense, and to invoke ever finer types of feeling. We have now left the academy, as it is currently understood; we are in the area of first person knowledge. As instructors, we are trying to transform the being of our students to make them capable of truly selfless acts in order to understand a text.

It is better that way. All third-person knowledge can be acquired most rapidly and effectively by people without a highly developed moral sense. Scientists like Dirac and Newton, who seem to have had Asperger's, got there first precisely because they really did not have a developed sense of their being in society and this freed up processing space. That sense should be inculcated if necessary for everyone's benefit.

One cannot understand the forces in our society without having been subject to then in a very raw form at some point. These forces incarnate themselves in figures who want to own everything, to control through force, or whatever. Conversely, they can authentically be responded to by moral decisions, second to second, a smile at a harried service worker, a donation to a cause, a sit-down in front of a tank, a year with a voluntary organization.

This kind of moral formation involves repressing the "empirical self", that part of oneself that narrates non-stop in a self-serving way. Its narrations get in the way of veridically apprehending reality. Moral formation has positive epistemological consequences. That is apart from the sense of moral stature we get from figures like Nelson Mandela, who seem genuinely to have forgiven their enemies and in doing so to have caused self-integration through taking of responsibility in some of them.

There are two further problems involved in the search for truth;

1. Consciousness is a relatively slow process, and the great majority (according to Lashley, all) of causal processes have already occurred before an item enters Consciousness. Yet, once it has entered, we can now make a moral decision; as the aphorism has it, we may not have a conscious will, but we have a conscious "won't".

2. Influences from the academy – which, let us remember, claim to be absolute truth - are competing with primal biological urges, with the demands set by the financial and political systems, and much else for pre-eminence in our psyche. Ironically, to grant the academy such pre-eminence would be a political decision, and probably a very bad one.

Again; the world (as experienced) is relative to consciousness, and yet transcends it. Much "education' and indeed formation of all kinds is about molding the billions of years of winding evolution that we represent into something that can perform a specific set of tasks well. That involves forming the preconscious. None of this is controversial.

The preconscious can be formed by stating an ontology, one that distinguishes grades of being from lower to higher, and recruiting the moral sense in impelling the students to the higher. Recent history shows that this can be very powerful, and very evil ; it is possible that many in the SS sincerely believed that they were righteously wiping subhumans from the earth. It is important to note that this is an ontology, not an inventory; that what is taking place is not psychological, but "objective"; external moral and noetic entities are being created that one is encouraged properly to apprehend through an act of self-transcending will. (We could indeed invoke the old concept of hylomorphism, the degree of spiritualization of substance, for the higher realms here, to complement "ontology").

Of course, nationalism notoriously has provided the ontology, and moral impulse. The fact that "nationalism "is now a bad word doesn't mean that it will not be reused, over and over, in the future as in the present – as anyone looking at emerging countries can see - nor that all great human initiative is always going to emerge from

those who see themselves as conforming to the dictates of a higher calling from outside themselves, rather than seeking psychological balance.

To continue with the main theme, then, seekers are looking for knowledge and understanding. The universities and other official academic institutions claim, with much justification, to be the providers and arbiters of knowledge. Yet academia is so full of trendiness and vicious competition that it often leaves alone the big, interesting questions, the ones that impelled Einstein to say that a human being who has lost the ability to wonder is already half-dead. Let us look at a few of these questions from some of the sciences:

PHYSICS

Do the Copenhagen and ontological interpretations of wave-function breakdown reflect different psychological dispositions, or are they in principle formally distinguishable?

Why is there so little progress to a grand unified theory that string theory is starting to be derided?

Is there really an external ordering process in the cosmos, one labeled "God" by proponents of intelligent design?

What have the chaoplexity sciences actually wrought?

BIOLOGY

Why was Darwinian evolutionary theory accepted even before there was a plausible theory of genetics, and is this premature acceptance underlying the intelligent design debate?

Does the very limited success of the human genome project imply that we need a new theory of symbol systems in nature, encompassing gene expression all the way to natural language?

What is the relationship between diet, metabolism, thermodynamics, and biochemical pathway?

THE INFORMATIONAL SCIENCES

Why cannot we parse any complete natural language after a half-century of trying?

Will quantum computing change our notion of computability?

How far can the notion of information be extended as an explanatory tool, or, as in the case of Murray Gell-Mann, a moral imperative?

PSYCHOLOGY
Is consciousness best regarded as a property of the cosmos, or an epiphenomenon of mental processing?
Does this also go for emotion?
Is there any physiological basis for meditation?
Are there formal limits to any attempted scientific formalization of mind and/or if such formalization was achieved, would anyone even understand it? Many math theorems are now too complicated to be checked by a person.

SOCIAL SCIENCES
Is there a real progression evident from feudalism to democratic republics?
Is a caliphate-type theocracy desirable, given its undoubted capacity to give stability?
What is the relationship between science, society, and religion that best does justice to all?
Are there objective rules in art, or is it all personal preference?

3.3 Curriculum

It is our, hopefully uncontroversial, contention that most of education involves students and teacher reading, discussing, and trying to improve their powers of concentration. If there is indeed some direct connection with the soul of the cosmos that can be achieved by arational initiation – and we have not found any such - the facts remain untouched by it. What we offer, au contraire, is a set of lectures and discussions that penetrate right to the heart of cutting-edge science and arts in a variety of fields.

PHYSICS
Cosmology; the "big bang" and its conceptual origins.
The origins of order; the anthropic principle and our privileged place in the unfolding of the cosmos.
From Galilean mechanics through QM and relativity to the search for a grand unified theory.
Chaoplexity; what is chaos? What are non-linear effects? Why is this field so important?

BIOLOGY
Health; diet, ageing, exercise, and the limits of the biomedical model.

What is cancer?
The contrast between metabolism and codes; genetic, histone, and other codes
Syntax as an essential part of nature; viruses and other text-editors
Epigenetics; factors that structure the unfolding of the genome in time and space, and the consequences for the nature/nurture debate

SOCIAL SCIENCES
The origins of the normative i.e. rule-based, in human experience
The role of religion in pre-industrial society and the necessity for outsourcing its concerns to other societal structures.
What then is left for religion? - Krishnamurti/Maharshi, Gurdjieff, MLK/Gandhi.
The dangers of fundamentalism.
Liberal republican democracy; the individual as microcosm in a self-similar structure.
Open source; the Luddites being creative, rather than destructive, this time.

PSYCHOLOGY
The classical domain of psychology; methodology and conclusions
A greater psychology; consciousness and the self.
Aesthetics; formal complexity, expression and suppression of desire, and self-awareness.
Music; Indian rags and other modal musics; the classical period of western music; what next, after jazz?
Art; why did painting lag behind architecture? After post-impressionism and cubism, what next?
Transcending postmodernism "

It is in the context hopefully established by the above discussion that I propose a new evolutionary schema; as stated in the abstract, this is consonant with the schemas produced in 19th century reaction to revolutionary excesses. Let us start with the grades of being. From the bottom, there is an entangled nexus giving rise to matter including advanced properties thereof like, self-preservation even far from thermodynamic equilibrium, dynamics captured in recent discoveries like fractals and chaos, and so on. At some point, the capacity to distinguish self and non-self merges with dynamics to create life. In turn, life becomes social, evolving into multicellular organisms, and allowing sex which will turn out to be critical for regulating chromosome number. The mere detection of stimuli to assay the exterior evolves into consciousness, with the latter allowing tests of salience of signals from many modalities. consciousness combined with symbols and self/nonself distinction creates much of modern man.

We are now up to perhaps 300 million years ago; what is even less certain is when the capacity to embed plans for dealing with the external world within themselves; this is the essence of the human genius arises. It is possible that recursion, the capacity to embed symbols, arises initially in birdsong. Combine recursion with intentionality in symbols, a nascent capacity for them to point to the external world, and the full human technical competence is close to being established. It is this competence that academies should – in total intellectual freedom – study and enhance.

Yet that is only the beginning of our path, as individual and as a species. Moreover, academies function in particular contexts that bias what they teach. The very act of sitting and listening to a lecture – however interactive technology can make this - induces a set of restrictions, and betokens a context of civilization. There are truths concerning race, class, and gender in which context the academy functions; while it can talk about them, they shape its functioning. Likewise, academies work in a context of political freedom, and in an environment in which all can travel practically anywhere in the world, and find out anything from the endless mine of human knowledge.

It is the unconscious presuppositions that religions explore. The goal is less an intellectual grasp – however refined – of various items of knowledge than a state of being that permeates every context of life. That granted, it is fair to suggest that no new religion should ignore science's central findings, nor its methods of exploring reality. This is particularly the case in the early 21st century, as it begins to look like the exponential advance over the previous 3 centuries was low-hanging fruit. The mind has not proved susceptible to this analysis; the "life' sciences as well as economics use baroque mathematical formalisms – much more complex than anything in physics - to find out very little.

The truth of the ontology then, common to the academy and outside, rests on two pillars:

1. The distinction between first and third person knowledge, with the academy concerned only with the latter, but rigorously so;
2.The nature of matter, life, consciousness and self-awareness, with patterns like chaos arising in social systems as in raw matter;
3.The permeating through society of race, class, and gender, with certain parts of life been set aside for certain activities, and social structures that should incorporate civil values. Much of this is unconsciously encoded, and religion will sometimes try to bring it into awareness to facilitate the development of mastery of oneself.

What can such a new path offer? Ironically, given the debauching in current society both of the arts and sciences, inexpensive efforts in these areas are likely to be more refined and technically better than that produced in the mainstream. Secondly, "he who rests shall reign" locating oneself as the locus of awareness seems physically healthy. Thirdly, increase in empathy in fact broadens one's knowledge and experience of life, through vicarious experience. Fourthly, it is possible to live a life much less environmentally damaging if not subject to the stream of accident. This includes the fact that the insane economic cycle of modern society allows a period in which good physical property is cheap, and will then uphold one's claim on it.

3.4 MASAB; A less evanescent perennial philosophy:
(meditation, Arts, sciences, activism, biosphere)

Struck by the absence of interiority in modern life, many writers – and indeed some thinkers – have called for a return to a "perennial philosophy", however conceived. Energies that might have gone into saving the pacific salmon have instead been diverted into strongly-worded assertions about how many levels of psychic reality there are, and how the geocentric model is really true if we are properly initiated into the true secret knowledge that constitutes its meaning.

The "true secret knowledge "of the cosmos is best considered by Einstein's use of math tensors, a race for truth he won against David Hilbert. It requires initiation; a course in mathematical physics, or at worst a good popular science account. Similarly, the various cosmic and colored psychic models (Holman, 2008) seem destined to suck up energy that should go into the arts.

This is particularly the case as mass popular culture threatens good art, in the same way as corporate encroachment on the university is indeed destroying true knowledge. Assertion of the Arts and sciences in today's society is a positive political act. Likewise, of course, is any act that preserves the biosphere, and human dignity.

The central problem with respect to the thrust of ideas is that their verbal expression, once presented to the individual, is processed by relatively slow and powerless conscious processes. In the meantime, imperatives due to food, shelter, and so on, often mediated by societal structures, gain much greater purchase even at the moments that one may persuade oneself that one is thinking edifying thoughts. These imperatives only become available to consciousness as a result of very severe internal struggle, or much more salutary political struggle.

The goal is authentic states of meditation in the middle of a life in the world which is open to the world's diversity and beauty in a realistic way. It is clear that is necessary

to have a sense of an external world and of a moral excellence that is possible with requisite effort, usually directed in the context of conforming to the higher achievements of that world. Here indeed we will have an external world, including a cosmology and cosmogony, but the moral effort is going to consist in honing the person's ability to cognize that world, most importantly by getting rid of unwanted ego in proper humility (which is what it is to be in the moment).

3.4.1 A creation reality

In the beginning, an undifferentiated nexus; called "uroboros" by the ancients and currently terms like "quantum vacuum" are used to describe the same concept. Yet it contains within itself the potential for everything, including us.

The first differentiation traditionally saw God differentiate from his creation; we now use terms like symmetry-breaking and operators in Hilbert-space. This tendency to differentiate subject and object, which yet have the potential to be linked in a way that allows recreation of unity at a higher level, in turn allows sensation, perception, and intentionality in cognitive systems. A human being in full possession of his faculties and with a stable relationship with the physical world can re-experience uroboros in a controlled way.

Now there is matter, with classical probabilities, and its own laws; yet according to some modern thought baby universes are incessantly being born. The energy in our quantum vacuum is 10**120 times less than the predicted value, and this facilitates our existence. Thousands of such unlikely circumstances beget our existence as intelligent carbon-based life forms, stardust able again to experience the primordial forces of the universe.

There are two sets of objective facts; the physical and the social. The former can be expressed as an ontology buttressed by the authority of science. The latter refers to forces that contextualize every utterance, including every utterance that claims to discuss them objectively. To gain clarity about them requires resources like critical theory – but even that is an artifact of the 20th century academy. Power relations in the society often can best be apprehended by a struggle against them, not through talking about them.

It is simply not good enough after several centuries of modern science to talk about "hidden knowledge". Any such "hidden knowledge" - where useful in the manipulation of the real world, both physical and social - has long ago been made explicit. Conversely, the modern academy is a dangerous place, with commercial forces assailing even academic freedom, which was the keystone of the set of compromises

between scholarship and power that is incarnated in the academy. So what this section is about is an attempt at an ontology that works within and without the academy.

The old chain of being - matter, life, consciousness, self-awareness must be complemented by these notions;

1."Simple' matter itself arises from some primordial stuff, and one mechanism is through an act of observation.

2. Matter has extraordinarily complex dynamics, which we are currently attempting to comprehend using appropriately skeptical terms like "chaos".

3. These dynamics rare recreated at each higher level, including human social systems;

4. There are other intrinsic dynamics; for example that which separates subject and object, leading in turn to things (through wave-function-breakdown), membranes, and Brentano's intentionality.

5. Symbols begin with life, and meld with recursion and intentionality to allow humans to talk about the world as if it were objective; on occasion, it in fact is best regarded as objective and we get engineering ability. Of course, symbols - even pre-symbolic signs – allow deception.

6. There is an external ordering force in nature, addressed in science (or explained away; as you prefer) by concepts like the "anthropic principle". The odds against the existence of intelligent organic beings are literally astronomically high.

7. This principle manifests itself in ordered societies doing complex tasks like waging war, calling on our engineering ability, and these things are often literally insane.

8. To distance oneself from this insanity and to exult in one's being as a free human is a very remote and infinitely joyous achievement.

The restrictions of the human psyche include the following;

1. There is a distinction between sensorimotor and symbolic cognition.

2. Cognitive development involves interiorization of processes previously intermediate between person and world.

3. Cognitive development also involves the related ability to reflect on one's diverse perceptions, and realizing a higher synthesis between them – subject/object differentiation. Pace Piaget, this process of development continues through adulthood.

4. The appropriate behaviours for every stage in life are often encoded in the culture; for childhood, play and obedience; for adolescents, finding the limits of one's competence and power; for young adults, ambition and house holding; for older adults, reflection on the ebb and flow of emotions and sage counsel.

5. There are regnant biases as a result of emotional "cathexes" - positive and negative- and, of course, early experience of family is critical.

6. The schema can best help those who are in the midst of the appropriate stage in their lives for their age, intuit something huge is missing, and are acting on it in some principled way. For example, they may notice that people give utterly inconsistent accounts of their actions and motivations and have sought explanations at cost to themselves s their friends flail about in their explanations of their inconsistency; they may notice the trash music in our culture and have set up a functioning, stable music business with a good Youtube channel at some cost; they may notice that their contemporary socio-economic system essentially facilitates a power-grab by Wall Street using ever more arcane math models and seek to rectify their lives to insulate what is fine in them from this; they may notice that simultaneously the biosphere is being destroyed and work for its conservation. The critical commonality is a moment of observation that transforms everything in one's life. At that point, one can move to the next level.

7. Any accompanying institutions should provide a place of respite and development for those with the foregoing realizations and responses to BE. This should be in a peaceful, preferably rural setting; have Feldenkrais and Yoga sessions; along with depictions of the Buddha should be those of contemporary heroes like MacSwiney and Brouwer; there should be a library full of artistic, spiritual and scientific classics from Beethoven's late Quartets Einstein's/Dirac's popularizations to the Gita. Preferably, there should be a working farm for self-sufficiency. There most above all be courtesy and civility, both in the group and with the neighbours.

3.5 The making of another counter-culture

There is of course ultimately no need for a path; we are already enlightened, have Buddha nature, are non-dual awareness etc. The problem is that, put in these terms, we lose this realization in the hurly-burly of everyday life. In fact, if we don't take care, we can end up so overburdened with stress due to real problems that we have no time to realize anything outside that stress.

Likewise, science indeed gives answers to a wide range of questions. Unfortunately, its areas of success do not include phenomenology – and how could they, given that science works for the objective/quantitative so well! The folk psychology description will always take personal precedence.

These facts together allow the creation of a space in society for that consensual experience of the sacred, particularly as manifest in man, that we call religion, It needs

a modus vivendi, at all times aware of the needs of others in a range from benign indifference to utmost heroism, a commitment to the search, and emotional maturity.

A new counter-culture should address sufficient aspects of one's life in society to become an alternative to living in that society.. It does strike me that, right now, with a new realm of symbolic product opened up in a discredited economic ruling system with an ongoing environmental holocaust, such a counter-culture is imminent. Moreover, this available symbolic product can be used to create narratives more veridical than those in academic "science'.

3.6 Weltanschauung

The problem today is NOT that we lack a first person science. It is rather that science has become cognitively impenetrable at its cutting-edge, reliant on baroque (and often false) statistical analysis on the one hand, massive technical apparatus on the other, and an ultimately absurdist narrative based on the math. So take all this away and we indeed end up with a first person narrative a la popular science books, which depend for their impetus of the reader's phenomenology.

Humans can get the best from themselves only in the context of an ontology – not just an inventory – of the external world, one in which their finer actions make sense. Schools like that of Gurdjieff tackle this by conjuring an ontology from thin air in a way inconsistent with attested science and this is both unacceptable and unnecessary. We can produce a Great Chain of Being based on an evolutionary dynamic that is as acceptable within the academy as the church.

The Church deals with the "Sacred" which is in often arbitrary opposition to the "profane". There are many churches, each with their divisions of Sacred and profane. Where the church's activity ends in silence in contemplation of mystery, the Church is a useful resource, a stepping-stone. Otherwise it is likely to be toxic.

To "invent" a new "sacred" is, in our scientistic culture, an expression of failure. It is a scientific failure in that we have failed to motivate the value by rational means; it is a political failure in that we have failed to muster the material means to make its protection inevitable. We can point to informational complexity in the arts to buttress the more ineffable attributes of self-awareness and emotional expression; we can point to legislative achievement in moral action to buttress the selflessness clear in people like Mandela. So what we mean by separating a space for the sacred and divine is precisely announcing that we are currently on the margins of society; a "religion"?

3.7 Details

In the beginning is a quantum state, beyond state and time. The fully human mystical state can re-achieve this both intellectually and using sensorimotor consciousness.. To attempt to do so without proper preparation is an attempt at integration without conscious de-differentiation and is pathological. Examples are doctrinaire pacifism (Gandhi's childish letter to Hitler) and modern "western" non-dualism that fails to take into account the difference in ours and the Upanishads' relation to nature. Alternatively put, premature re-integration by an organism into the biosphere is death; premature re-integration of Gaia into the biosphere is death of all macroscopic life.

Systems free of their environment will explore the space of all possible configurations of interaction with that environment until it finds its best stable functions. This we call "equilibration". Thereafter, environment and system co-operate, allowing for example "genetic assimilation" if the environment is stable. True differentiation unites, at a higher level.

The theist believes that our intuitions of a physical source of things and that dynamic leading to the type of self-abnegation and self-integration we call moral excellence converge on "God" who then becomes the fount of all that's good. To understand how little influence this fount has on human history, just take a look at the succession of tyrants who have taken power. To which the theist will respond, presumably, with action that lessens their power, He could continue and argue that the order immanent in the cosmos -and indeed in human affairs - usually explained away by concepts like the anthropic principle, when experienced psychologically, is what he means by "God". He could continue to argue that the god hypothesis is in no worse shape than string or multiverse theory.

Conventional religions, then, are based on a set of paradoxes; they worship a God who is omnipotent, omniscient, omni-benevolent and universal yet create sectarian institutions wherein they pray to that god to rectify matters. Despite the apparent metaphysical austerity of its founder, Buddhism is little different. Moreover, moral heroes are revered in each religion, though surely they were just obeying orders? The anthropic principle attests that there is something magnificently and mysteriously ordered about creation; our daily existence attests that there is also something cankered within it that leads to downright evil. As we consider ourselves delimited selves, we go bout our daily lives in the context of a creator, even if we call that Nature; as we achieve moral excellence, we become something able to immerse ourselves in the unborn, unoriginated, uncreated, unformed, and the alone returns to the alone.

So we have a notion that the Infinite can be approached with a set of formulaic prayers; moreover, that infinite can give blessings as He (always He) chooses.

Obviously, the reason things are not going well is that the guys down the road have different prayers and are displeasing Him. The life of Jesus can be taken as a cautionary tale of what happens when you really try and get him to change the system; the system uses you for its own end for 2k years (and counting). An alternative is necessary, one that makes clear that moral excellence is as difficult as its is rare, and to be praised precisely because it is not really in tune with Nature/God/whatever. Insofar as we understand the most efficient ways to run societies, they seem to be dictatorships; as democrats, we invoke individual freedom as a moral alternative.

It could be argued that what modern theocracy consists of is above all a category error. They attempt to destroy centuries of societal development by invoking the wrath of a personal God. The infinite of course cannot be a person; it can however be noetic and transpersonal as we are in our finest moments. Moreover, its nature is to be on the cutting-edge of subject and object, the cutting-edge of evolution. When we get an unjust law revoked, or get an endangered species legally protected, we participate in this.

Evolution is indeed a vitally important concept. Unfortunately is has gotten trapped in a local minimum related to a Victorian gentleman's childlike impressions of an imperial expedition Religions, by contrast, are an attempt to take the forces of immanent order and channel them toward the good is a created community; the channelling is called "intercessionary prayer" -and is directed to God. Yet it could be argued that, in eschewing a personal God who is the foundation of morality, Buddhism is more advanced; this is particularly the case as its founder apparently lived a life of heroic self-sacrifice.

3.7.1 SCHEMA

On the left, the substance at a particular stage. At the right, the new dynamics introduced with that stage with an identification of whether it is an anthropism, emergence, construal, or recapitulation(a.e.c.r)

REALITY		
Quantum uroboros	Quantum fluctuations, differentiation (a,e)	subject/object
MATTER		
subatomic particles	collisions (e)	

Atoms (pre Carbon)	Fusion, chaotic dynamics(e)
Atoms (post Carbon)	self-catalytic organic chemistry (a, e)
Molecules	Full chemistry, emergence of new properties(e)
LIFE	
Life	Membranes (subject/object differentiation) (e,r)
Organismal complexity	endosymbiosis, natural selection, Hox genes, co-operation (a,e,c)
Lifeworld	Dynamics leading to Gaia (a,e)
Self-replication in DNA/RNA	Cells, organisms, symbols -->deceit, recursion (a,e,c)
multicellularity	differentiation and integration of function (e,c,r)
ANIMALS	
sensorimotor function	imitation, egocentrism (e)
consciousnessI	detection of salience in multimodality (e)
Use of recursive sets of signs	Birdsong (e,c,r)
Social interaction	Tribal dynamics (e)
HUMAN	
Symbolic development	sensorimotor use of logical systems (e, c)

Use of symbols to refer	intentionality (subject/object differentiation) (e,c,r)
consciousness2	Symbolic and recursive elements (e,c,r)
Quickened social interaction	Societal dynamics, mass war (e)
Refinement of symbols	The arts and sciences (e,c)
A socius in network of selves	an egocentric narrative (r)
A "self" constant over operations	Engineering; environmental change, damage (e,c)

TRANSITIONAL STAGE

Self-modelling	Incompleteness intuitions, humour (e)
consciousness3	Subjectivity (integration) (e,c,r)

NEW EVOLUTIONARY DYNAMICS

Self-awareness over several domains	control over intentionality (e,c,r)
Biosphere as Gaia	Ethical action to protect environment (e,c,)
Refinement of impulses	protection of higher arts and sciences (e,c,)

All these final category emergent items also are construals; we are on our own, as the cutting-edge always is on its own. We are attempting to integrate our differentiated

selves into one central person, much as differentiated cells came into the ambit of a single organism in endosymbiosis.

3.7.2 A slightly embarrassed political sociology

In terms of societal organization, we can detect progress from tribal dynamics (with a ruling principle of loyalty to a tribe) to feudalism (itself a protean concept) with an imposed hierarchy. On a parallel track, the invention of writing led to the possibility of bureaucratic organization. On yet another, since size indeed does matter in realpolitik, the tribal ethos was trumped by the reality of empire, administered by a bureaucracy and with a "dead hand" ethos that we can call an "ecumenism".

In the 19th century, as wonderfully described by Benedict Anderson, inter alia, came the apotheosis of the "nation state" with a tribal identity but a bureaucratic administration that made it almost an ecumenism. The "New world" countries attempt to ape the notion of a nation state in some ways but are by definition multi-ethnic. Clearly, environmental protection will require ecumenical dynamics over several sectors of life; these should offer no dangers to ethnic identity.

Raymond Aron pithily defined political sociology in terms of relationships between part and whole. In that, of course, it echoes processes in biology; moreover, rather famously, Plato discerned a tight analogy between the structure of the ideal psyche and that of the ideal polis. To say that the modern state is still a work in progress is an understatement; nevertheless, we can discern an empowerment of the individual within the state to the point that a citizen in a western democracy has at her disposal –given average financial success – cultural and energetic possibilities beyond the reach of potentates of even three hundred years ago.

Even that is a step down from the heyday of the "mixed economy"; otherwise put, Richard Nixon would look like too liberal a Democrat to be even remotely electable, It is also fair to say that "popular culture", dimly glimpsed as an approaching threat by early critics like MacDonald, now threatens to steamroll higher forms of human expression.

We can perhaps best detect the differentiations and integration within society that reflect ineluctable processes toward increased autonomy by being what permanent gains people have been willing to struggle and die for; as their heir, we should similarly be ready to struggle. They include an attenuation of the absolute power of the monarch, exemplified by Magna Carta; freedoms of person, thought and property, gained by the Enlightenment revolutions; and universal franchise, gained mainly by suffragettes.

Many other freedoms are being rolled back, often through the ingenious device of granting personhood to corporations. The worker had a much greater share than now in gross profit until the 1980's, mainly as a result of union activism; that via media between dictatorship of the proletariat and plutocracy may be reinstated, and violently. Until 9/11, privacy was sacrosanct in American and many other Western societies; the current level of state monitoring of private interaction is close to a blasphemy to the intentions of the "founding fathers" US.

We have no Moses to point to stone tablets on which rights to self-expression, economic opportunity, and so on are written; we do however have the evidence of centuries of class struggle, and a palpable sense of the victories gained, still available to us at least in vestigial form, and worth fighting for again if needs be, We can best honour them by adding to our struggle the integrity of Gaia.

3.8 Conclusion

This paper began with Kauffman's program of "reinventing the sacred". Kauffman, above all, wishes to rehabilitate God considered as the "creative spirit' in evolution. We pointed out projects parallel to his from Plotinus to Buddha before focusing on Gurdjieff as a 20th century synthesizer. In Gurdjieff's system, neither environmental preservation nor human development is by any means guaranteed by evolution/emanation; on the contrary, both these desiderata are in some way against "nature". Yet in our consciousness, as mystics have argued from Plotinus onward, is a capacity to re-unite ourselves with the absolute, a step that Kauffman might indeed have proposed - particularly given his resolutely ant-algorithmic quantum view of mind. For Kauffman, like Plotinus, the alone could return to the alone considered as a coherent quantum state.

Remarkably, Gurdjieff's radical insistence that we possess neither consciousness, will, nor a constant self can be maintained in the face of recent neuroscientific evidence. In fact, human consciousness seems like a spandrel, an accident of evolution that has in its wake begotten selfhood and the capacity to perform engineering feats that can both destroy and heal the environment. The "work" focuses on the development and refinement of consciousness among an elite. That is insufficient for sustainability; the good news is that modern "ecumenical" power together with bureaucracy has shown a capacity to legislate appropriately to preserve ecosystems.

Activism to enshrine such legislation into the machinery of the state can be seen as an act of re-enchantment of nature; indeed it can be seen as a re-assertion of the anthropic coincidences which have caused us to be, in the midst of our complex socio-political systems. It can also be seen as a mundane, if morally excellent legal

achievement; it will be the job of those with a genuine religious impulse to produce structures and rituals in which political activism can be seen as a participation in the sacred. The references to "the path" are a semi-serious attempt to suggest a prayer and life weekly cycle.

For the moment, writers like Needleman alert us to emotions in which self-transcendence is achieved, as Kauffman. It is clear that modern delineation of the sacred must include the processes that we call Gaia; it is argued here that it should also include the refined parts of the arts and sciences, characterized by informational complexity, self-awareness, and (for the arts) control of emotion. Moreover, we should see ourselves as creating new levels in an ontology, a new form of human being. We should, doubts and all, strive for moral excellence even if we worry that no good deed goes unpunished.

In this schema, the Abrahamic God who legislates directly is an absurdity – or, as the American-Jewish comedian Lewis Black rather brilliantly put it, he was invented to distract the desert wanderers from the realization that there was no air-conditioning. Yet, faced with a clear moral injustice upheld by material force, it is appropriate indeed to act as if God is on our side. A good example is the recent success by the "sea Shepherd" in arresting the annual Japanese whaling season. McBay et al (2011) are right about one thing; globalized corporatism is malignant, as destructive of Gaia as it is of the higher possibilities of humanity. It is a mystery that, absent any "objective" cues, moral heroism – even if failed, from Jesus through to the victims of the GW Bush "Green Scare" – does seem to put us in touch with a Reality that transcends us.

Nature supplies us with a few clues, beyond the clear destruction of the biosphere. As we attempt to become more integrated self-systems, we recapitulate a path that multicellular organisms took when their differentiation into multi-sensory systems required integration as "consciousness1". Genuine moral achievements supply the kind of existential security that led many whom we consider "great" to ever more austere moral heights. The greater informational complexity and consistency of the more refined arts and sciences is a similar goad to the heights. Finally, the emergence of the internet allows the dissemination and production of fine art and science, and it is by no means impossible that a whole new definition of "livelihood" and "work" is imminent.

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