

BIONOETICS: LIFE AND MIND; RELIGION/SPIRITUALITY AND SCIENCE

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ABSTRACT: Science deals with “knowing that”, third person knowledge which can be presented to the individual consciousness and verified.. It is argued here that science becomes more veridical once it reflects ontology - differences in levels of being- in its methodology. Skills learning deals with “knowing how”, and often we practice to make skilled movements unconscious. The arts follow science in the schema here in what is fundamentally an attempt for Being to know itself through us, but the means are more various and less precise. Above all, the scheme here eschews the facile reductionism inherent in subjectivism and aesthetic, moral and epistemological relativism

There is also a third category of experience, relating to social processes in which we are objects as well as subjects and a fourth i.e. biological processes that secure our continued existence, and both of these are exigent in that they demand we consider ourselves as objects. It is argued here that treatment of these categories of experience should be part of the true content of religion considered as the exaltation of humanity by immersion in the sacred.

No attempt is made to supersede the sacraments like confirmation/bar mitzvah that introduce the neophyte to a new level of participation in the community. These are steeped in useful algorithmic compressions of folk psychology applied to a particular culture. It is argued that a new chapter in humanity’s dialogue with the cosmos can be opened with this reconstrued science, arts, and religion.

To summarize in two sentences; It is argued that our experience oscillates between “alienated” and “centered” movements and that we should try and live in the “centered” process. This distinction is explored at the levels of sensorimotor experience, mentation, emotion, conviviality, power, and spirituality.

KEYWORDS: Bionoetics; University; Consciousness; Transcendent; Noetic; Numinous

EXECUTIVE SUMMARY OF THE PROPOSAL

Now that it has become respectable to talk about fine-tuning of the cosmos for life, world intellectual life is abuzz with speculation how science and religion are compatible. Very little serious discussion has been entered into about which definitions of science and religion should obtain. This proposal argues that a version of science that takes account of levels of Being is not just compatible with an appropriately rationally reconstructed version of religion; it is more veridical than conventional science. Moreover, it continues its argument with the statement that such a religion can construe its Absolute simply as a logically unassailable ground of being.

There are several entry points into this worldview. One, already published, argues that causal explanations differs as one proceeds from quantum to classical physics, to biology and psychology. Another argues that cognitive science has failed to produce formalisms of sufficient logical power to handle conceptual thought in physics, and is thus guilty of psychologism. That too is published; this proposal takes a further step. It argues that science essentially center itself on epistemology, with entities relative to the limited sampling capacity of human consciousness, and religion/spirituality consider entities transcendent to it and exigent of the self.

The Foundations of mind project argues that the critical split between Easters and Western metaphysics can be seen in the different responses of Sankara and Descartes to the ebb and flow of their consciousness. For the former, the conclusion was that there was Reality –Being-Consciousness underlying everything ; the latter opposed the evil spirit who could deceive him with the fact that he (Descartes) was always able to construe himself as something. The former dissolves selfhood in a sea of consciousness; the latter argues that we evolved primates have hardwired into a mechanism for at least the illusion, and sometimes the reality of agency.

The Foundations of mind also argues that science ultimately concerns itself with entities that can become the objects of focal consciousness “knowing that”. Indeed, skill learning involves submerging processes to the cognitive unconsciousness “knowing how”. Yet there is an immense other space of experience –self as object in social relations, aesthetics, rites of passage – in which reality is sensed as a transcendent to consciousness (aesthetics) or exigent of the self (morality). These processes, we argue, fall currently into a space that can be construed as upheld by notions of the sacred, of religion. Nor do we claim direct access to a Ground of Being; rather we follow Plato’s Timaeus in arguing for an emanationist system. Specifically, the convoluted and often decohered chain from quantum reality through biology to subject of experience makes direct experience of reality rare.

On the other hand, this scheme allows for a more precise science. The focus of study in biology should be function in an environment and the computer programs

should reflect DNA in being both programs and data. We have already published this, as also we have published work influenced by Bohm and Pribram that stresses the unstructured nature of the sensory plenum on the one hand, and the non-linear, dynamically functioning of neural systems on the other.

We intend ultimately to build a research and residential center in which this new dialogue of science and religion can take place. The current proposal, however, is for projects that exemplify the view of science in terms of levels of Being.

Along with our conferences, online courses and books, and books, we also propose software that simulates how the brain processes data expressed as a power spectrum without any structure, how DNA works both as program and data, and how the physically challenged can use computers. We propose also analysis, both metaphysical and experimental, of causality.

In its two years of existence, Foundations of Mind, which is a non-profit, has published over 70 new peer-reviewed research articles, a proceedings book, an acclaimed monograph, and run three international conferences and numerous seminars at UC Berkeley. It has all been volunteer work to date with nobody compensated. Our first grant will be used to put the foundations of Mind project on a stable financial keel, with funding for its forthcoming book, conference proceedings, and advertising for its online course with the current well-designed website augmented with graphics.

INTRODUCTION

In my accompanying paper in this volume, an attempt is made to outline a cosmogony, neuroscience and phenomenology consistent with the more coarse-grained viewpoint in this paper. The cosmogony is that of Uroboros emanating itself, at all levels from the quantum to the phenomenological. The neuroscience is a neurodynamics superset of the rather crude, mainly linear models being extravagantly funded worldwide.

The phenomenology contrasts periods of meditation and/or conscious focus with periods of distraction and incessant narration to oneself. We find this reflected in power consumption by the brain oscillating between 20% of the organism's metabolic demand and four orders of magnitude less. The empirical, chattering self is energy-consuming noise, as many of us long suspected. It is alienated, versus centered mentation and yet is sometimes essential to get through our over-complex lives.

At the microscopic level, we have two models. In post quantum theory (PQM) life involves a back-reaction from the classical "beables" to the pilot wave. In the absence of such back-reaction (to continue what is still a metaphor), we have noise.

Alternatively, in quantum theory we can think of the wave function as the subjective aspect of Uroboros and the complex conjugate as objective. This writer prefers a version of PQM in which some fiber bundles – those in the human cortex - are intentional, and back-reaction occurs in certain limited circumstances. As Needleman puts it in his commentary on Marcus Aurelius, the Mind of the Whole can BE through us.

Let us begin by summarizing the view here. Out of his struggles with the deceiving evil spirit, Descartes identified a realm in which he could not be deceived as it related specifically to his cognitive self; there was something he could make out of himself non-violable by that spirit. He then absurdly went on to infer that realm that ontologically different from the rest of nature, with disastrous results including to the Biosphere.

Nevertheless, the idea that there is a realm subject to our will in which there is a clear subject-object demarcation – a “cognitive” realm – is solid. That distinguishes our view from Advaita; it has also helped generate western science. Nevertheless, Descartes’ ontology is primitive, and the Bionoetics description below gives principled discontinuities between levels of being at the physical, biological and intentional levels.

The biological level we leave to the established religions (unless someone invents a less harmful one) with their historically attested ceremonies of initiation. The sensorimotor level can be edified with techniques like Feldenkrais and yoga. While there is great natural pleasure in progressing in these disciplines, we also add western sport; even complex sports like squash are enjoyed by the relatively unskilled.

They are perhaps using what Freeman (1999) called “preference” – the confirmation or otherwise of sensorimotor “hypotheses” – to arrive at a firmer sense of what consciousness/awareness IS. Alternatively, players are simply having a good time; or perhaps Being is manifesting through us.

Descartes also failed to mention a realm in which we must consider ourselves as subject to civil and informal social law; let us call this the “exigent” realm. Self can also be dissolved in the chanting of tribes like soccer fans or – better – in aesthesis with a sense of a beautiful aspect of reality becoming immanent. Let’s call this act of consciousness “the transcendent”. It comprises the aesthetic, noetic (math’s unreasonable efficiency– see below) and the numinous. By contrast, tribal (soccer chants, etc) behaviour is automatic once learned. We reparse this set of distinctions over and over in this paper, at different levels of granularity.

Nor does the “cognitive” with its psychological vocabulary properly cater for math’s unreasonable effectiveness in physics, and results obtained from math’s formalisms are more properly recalled “noetic” rather than cognitive. Of course, the

bliss - what Penrose alludes to as elation in their ineffable onset – immanent in these processes intersects with the aesthetic.

Finally, spirituality deals with the “numinous”. We will not venture into Abrahamic religions here except to say that Europe managed to tame its version following Pope Clement VII’s being put in his place by Henry IV of Germany, incidents that colored the contemporary Norman invasion of England, leading finally to the freedom of conscience that we are ready to fight for. It is as well to continue using our sometimes beautiful churches set in city centers for rites of passage and Bioethics is concerned only with spirituality, not with competing with the Church. Specifically, it argues for an “oceanic” numinous experience; the river finding the sea, experience of Gaia as entanglement in the Biosphere, complementing a focused sense of a locus of awareness transcending the empirical self.

Let’s summarize the schema then. Acts of consciousness are categorized according to two dimensions – the aspect of human existence that they address, and the degree to which the barrier between self and world is fixed. At the sensorimotor level, we have many fixed patterns that can be confounded by a skilled Feldenkrais or yoga teacher, an act that leads to a heightening of awareness corresponding to a veridical sense of self. At the “exigent” level, conformity to laws can be revealed as automatic and immoral by great activists, complemented perhaps by the resources of critical theory.

One then realizes one’s true role in the world, a central feature in Marxist enlightenment – “bewuss sein” - to be aware of the myriad crimes that have propelled one worldview and social class into ascendancy over all others. Recent books like Carey’s “Amnesia” and the masterpiece “In the light of what we know” explore this in an explicitly technical -indeed in the latter Gödelian – setting. (We have been blessed in the teens of this century with other books like Franzen’s “Purity” that are returning us to our ground of being in this dystopic era in a manner that scholars are refusing to do).

Transpersonal events can be initiated by meditation, and one’s empirical “self” may be seen as an object in the right setting. In the wrong setting, this can lead to dissociation, a fact almost certainly known to brainwashing practitioners. Indeed, the cognitive can be transcended by the noetic in a Gödelian context. Transpersonal events are also related to moments in which one is “humbled, not humiliated”, in which compassion for others and like events replace solipsism. These emotions are the stuff of real political activism.

The arts have become commoditized by portable devices that prompt one to replay a song for “chills”. The aesthetic is the moment that a window is left open to the infinite through the arts. Finally, the awe associated with God seen with the equipment

of a constant self can be replaced by the numinous wherein “even god disappears” as Eckhart puts it.

Bionoetics regards all these acts as sacred, and sharing the communality that the essence of Being-awareness can be experienced at least through a glass darkly. We welcome activists like Assange and Snowden; artists like Ani di Franco who has put quality music out there; seekers of the infinite in all its forms. Of course, our focus is the most intellectually engaged area – the cognitive – and the least ineffable!

Historically, it can be argued that Abrahamic religions have used their apocalyptic edge to gain traction on society. Arguably, the takeover by the church of Dark age Europe was necessary; in the vocabulary here, all movements of the psyche, relative and transcendent to consciousness were rolled into a Magisterium comprising the exigent, cognitive and much else. Indeed, it can be argued that Islam, with its Judaeo-Christian ethos (Hirsi Ali, 2015) created the unity of Europe in Christ by aggressively promoting an even more apocalyptic take on the same material, much as ISIS do in the teens of the 21st century. Intriguingly, the peaceful “Ghost dance” of the Lakota was apocalyptic, but may have not stayed that way had not the brutal massacre of Wounded Knee intervened.

It is proposed here to assign to religion essentially functions originating in the organic aspect of human existence; the sacralization of food in the agape, the sacraments of ever further induction into the community as infant, as adolescent, as married couple. Buried in the rants about “Og, the king of Bashan” and other biblical excess is a tendency to ontological growth; attempts since the French revolution to stamp this out have all failed. While we should allow competition, the Church has all the best city sites and will probably yet again see off all competition.

Bionoetics, in turn, is explicitly a successor to anti-clericalism in denying theocratic tendencies by the Church (or Islam), while arguing that the West has successfully domesticated the impulses that make the Abrahamic god also a social law-maker. It argues against historicist views like Communism that, while social equality is a desideratum, freedoms of speech and conscience are among the greatest goods, and free economies create new desires that Marx could not countenance.

It asserts itself against neoliberalism and its violent neocon successors that there are realities independent of what money and markets can create, a fact attested to by social activists as well as artists and thinkers who make enormous sacrifices to continue their work, simply because it is better. Arguably, our current Western financialized societies are close to an eschatological form of capitalism, and the resistance is becoming violent.

We intend ultimately to build a research and residential center in which this new dialogue of science and spirit can take place. We leave the biological to Religion. Sensorimotor acts of the organism can be handled by Yoga and sport. The cognitive is the ontological approach to science, a decades' long path in itself. The transcendent is handled with minimal adherence to tribalism, a true arts education, education in which the noetic trumps the cognitive and – at all times – attention to when Reality is immanent as a numinous entity. The Noetic is the harbinger; in particular, “seeing” the truth of a Gödel sentence can be interpreted as a noetic moment in which individual consciousness is part of something bigger, in which one is seen as much as seeing. Indeed, even truly asking “What am I?”, or “Why all this pain?” leads to the same realization.

PRIOR ART AND OUTCOMES

This writer has struggled with this topic for 4 decades. The choice to make this paper relatively light on references is a conscious one. Nevertheless, it is meet to point out that this area has been fractious since Galileo and indeed Robert Boyle, hot on the heels of that fracas, instituted funding (gleaned from his father's theft of Irish land, ach sin sceal eile as we Gaels say) for research into science and religion.

First of all, my 2014 book has many references in this area. The theme of that book is that, while we can indeed create “One magisterium” to cover all of life in a religious weltanschauung/worldview, we in the west still live in gentler times. So we can distinguish science and other psychic acts that can be construed – that is, that are relative to consciousness and the cognitive self – from psychic movements betokening a reality transcendent to consciousness, be that reality, noetic, transpersonal or numinous. (See my accompanying paper in the volume. My 2004 and 2003 books are shorter forays into this area.)

It is important to sustain such a distinction in an era when the civil society of the West is threatened by an apocalyptic death cult. Yet such a death cult characterized much of early Judaism and then Christianity. Jehovah is indeed a jealous God, whether conceived of as Allah or not.

Of the many outstanding books in this area, it is the ex-Marxist Kolakowski (1982) who most clearly delineates what religion must reflect; man's experience of the sacred. More recently, Watson (2014, 4-5) argues that common to the atheists Dworkin, Williams and Nagel is a baulking at the transcendent, which nevertheless continues to insinuate itself. It is part of the argument of my pair of papers here that the transcendent can be seen as immanent in many acts of noesis – as distinct from cognition. As I argue in my 2004 book, it can be achieved through thought, dance,

aesthesis, love-making ; in fact, one of the main jobs of the churches was to regulate it as it is ubiquitous.

The Christian McGrath (2015) uses his science background to argue that belief is like the sun, something that produces a light through which he can see. The self-confessed atheist Jacoby (2016, 4) inveighs against “the many rewritings of personal history intended to conform the past to the author’s current beliefs and status in life”, a charge that can be leveled against the former atheist McGrath. The fact that it can equally be leveled against Jacoby will from a bridge to the outcome I envisage for this paper.

Jacoby’s is largely a pro-Jewish screed against forced conversion, a war she wages for her Hebrew brethren. Yet she (319) is fully aware that Jewishness is matrilineal; elsewhere she points out that her own father was a Jew who converted to Catholicism to gain the solace of confession to help his gambling addiction, while her mother was Irish.

That would make her Irish, were the Irish to become as nationalistic as the Jews. We never have attempted anything of the sort; similarly, this paper is intended as providing a metalanguage for believers in all creeds and none, and is not in any way sectarian. Fitzgerald (2013) simply points out what happened when the Nazis invented a new religion, with Rosenberg tasked to introduce festivals and ceremonies of birth, marriage etc. In fact, their ravings about Aryan superiority resemble nothing so much as “right of return” and other Israeli nonsense.

Therefore, while it is argued that we are called by the numinous and experience the sacred, there is no project here involving creating a “religion”. For a start, it is self-censorship not to enjoy the many beautiful and centrally-located churches in every society for initiation ceremonies, whatever one’s skepticism about the cosmology being proffered. Secondly, the Nazis’ failure was an echo of that during the French revolution, and the desecration of Notre Dame de Paris did not last long.

The outcome envisaged from this article more resembles a reinstatement of the value of the humanities as a bridge to the transcendent; a return to the normative in the social sciences; the kind of aggressive protections of our freedoms in western societies for which electorates are, if clumsily so, clearly clamoring. Non-corrupt religions contain within them a seed of former glory; while Hirsi Ali (2015) in her recent “Heretic” books points out the asceticism of Islam, and argues that it can be reformed sagely if controversially by removing the eschatology. Pope Francis is indeed cleaning house at the Vatican and both religions will be around a lot longer than any of us (Gehring, 2015).

Finally, the paper argues that with \$1.32 trillion in student debt shared by 43 million in the USA alone, it is time to get rid of accreditation, the rationale for indentures that we call student loans. Similarly, opening up competition to non-accredited colleges will free up teaching spots for the many PhD's who are underemployed and in debt; let competition sort out which colleges are worthwhile as Stanford, MIT etc do not need accreditation at all and their MOOC courses are free or \$50 or so for a certification. These can be used by independents to bulk up their courses in the absence of faculty. Scientific research is at this point a scam, one feeding into exploitation of students, tenure which has become meaningless, and publishers with a 40% profit.

THE ENCOMPASSING AS “CONSCIOUSNESS”

While we will never be able to ask – and the likelihood is that the hippocampus is not well formed enough for memories to be retrieved to answer – there is widespread consensus that the newborn comes into the world with an undifferentiated field of consciousness. My 2003 book reviews this theme in its incarnations in Piaget among others. Infants are already immersed in an intersubjective world – from birth, they seem to be able to imitate gestures. Yet that is not a willed domain.

This undifferentiated field does not even distinguish the physical body from the external world, an achievement that awaits the co-ordination of willed actions, and indeed many people stumble through life as crashing bores unable to conceive that what they just read on the internet may be of less than pressing urgency to their “friends”. In short, egocentrism will often persist into adulthood in fields where no pressure has been exerted for the subject to take a few corners off herself.

This undifferentiated field roughly maps on to Karl Jasper's notion of “The encompassing“ and –less precisely - earlier ideas like the “Overself”. It is fair to say that recent hawkers of Advaita Vedanta state this field is true reality, consciousness, bliss, that from which everything emerges, and ultimately our own true nature. In a recent debate distributed to the forum discussion group, Deepak Chopra made the observation that since mathematical concepts emerge from consciousness, math obviously cannot comprehend consciousness. It is to be argued here that he is right, for the wrong reasons.

In my 2014 book, the argument is made that math is simply our most elliptical access to Reality. It is sometimes irrational by the standards of physical experience – try explaining how different types of infinity work- and conversely gives us access to the cosmic and microscopic in ways in which primates like us should have no access. It will never be possible to explain “the unreasonable efficiency of math in the physical

sciences “ (not the biological, where it works less well) in reductionist terms, including psychological such, because math’s access to reality is the gold standard from which all sciences get their accreditation. There would be no reason ever to listen to psychologists without the hand-me-down remote validation they get from math in the physical sciences.

Nor will it ever be possible to rule out a Platonic explanation of entities like infinity. It is conceptually not amenable to psychological reduction. In fact, the notion that Platonic entities are independent of consciousness is one counter-argument to Vedanta. Let’s look at another one.

Descartes at Ulm made one of the great philosophical blunders of all time. His concern (1986) is that “some malicious demon of the utmost power and cunning has used all his energies in order to deceive me”. His resolution (ibid) is famously the idea that the demon “...can never bring it about that I am nothing so long as I think I am something...this proposition I am, I exist is necessarily true” (ibid.).

So far, so good. Descartes then went on – disastrously – the endow this “I” with computational efficacy, anticipating GOFAI with the notion that cognition was always the processing of representations by a CPU-type homunculus; it was clear by 1970 that this architecture does not work. He then went on to make an ontological distinction between this immortal, disincarnate homunculus and the rest of nature, leaving out even the biological as a separate category. By contrast, Sankara and his followers like Chopra argue that ultimately matter is simply sensations, and mind thoughts presented to consciousness. This is just as unlikely to help promote the idea of a hierarchy of value.

What is being proposed in this paper is an alternative, new path. In short, the self behind which Descartes found sanctuary is quite simply an artifact of a cognitive immune mechanism in the brain that prevents drowning in a sea of data by censoring the access of 99.9%+ of what we experience into consciousness. On that bastion we in the West have built our civilization; we produced science with strict distinction between subject and object until the 20th century, technology – and much environmental and cultural destruction as we rampaged in cultures that did not have our tools to manipulate nature.

QM has nuanced – perhaps obliterated - science with strict distinction between subject and object on the epistemic level as we probe the sub-atomic. Yet this distinction works fine for most of the rest of our science, and is wholly necessary as we negotiate our lives. Just as those in the west who tout Buddhist “no self” ideas tend to be “scientists” with very big egos, so also those who argue most vehemently for non-

dualism have very deep pockets, the result of cunning distinctions etched between themselves and – everyone else!

We distinguish here between movements of the psyche and organism in the sensorimotor, cognitive, social and indeed “religious” fields. It is argued that – to take the example of the informational as outlined by Aristotle i.e. mental acts that can be right or wrong—mentation proceeds with a received distinction between subject and object as we probe the classical physical, biological and indeed neural layers. We call this “cognitive” mentation. Science exemplifies this; indeed, applied math can be seen as a tool to access a consensual (perhaps indeed an external, part-Platonic) Reality in the same way as mountaineers’ kit helps them up to the top.

The world can be considered in terms of the set of possible actions one can perform on it (egocentric cognition) or as some kind of shared map— Ó Nualláin (2003), contains an analysis of this distinction. A counterpoint to this distinction is “coupled” versus “decoupled” architectures. Only the latter can truly be termed representational. The former can be further divided into pure reflex actions, and information pickup in a Gibsonian manner based on affordances. Representational architectures, on the other hand, begin with the deictic, where organisms represent only what they can perceive.

Once object permanence (in the Piagetian sense) is achieved, we enter the realm of base-level representations. The formal, “meta” level, accessible only to higher primates, involves the ability to represent one’s own representations. The situated cognition view is that interaction is key. Related work analyses the shift that occurs from egocentric to intersubjective cognition as familiarity with a scene grows.

We can find evidence for the operational distinction between self-reference (egocentric/coupled) and allocentric (intersubjective/decoupled) systems. This distinction has a neuroscience basis; experimental work on the hippocampus has indicated that it acts as a locus for egocentric knowledge in rats as in humans. Ingenious experiments indicate independent access to the two systems. Paradoxically, we find that one may have an allocentric reference frame in an egocentric mental model.

“Transcendent” mentation nuances the strict distinction between subject and object. There is a famous Mulla story in which he is unwisely selected as a judge. The plaintiff is eloquent and Mulla, suitably moved, states “I believe you are right”. The trial nevertheless proceeds with a stirring defense and Mulla again exclaims “I believe you are right”. A court officer explains the anomaly at which Mulla cannot but say “I believe you are right!”

This is a paradox in our cognition best pointed out by Gödel. We need to reflect on our thought processes, to consider ourselves as objects. At this point the "transcendent" enters, a selfless entry into a source of awareness that is transpersonal leading to a "Noetic" moment. Many readers will see this as critical to the arguments brought up by Penrose et al.

The rest of this paper will argue that this elision of subject and object will lead at the sensorimotor level to a feeling of "flow", of being "in the zone". This can also be thought of as "decoupled" versus "Coupled" as self recedes for a moment. At the exigent level, we experience something akin to Marxist enlightenment, "bewuss sein".

In each of these cases, there exists a dynamic from fragmented self to unified self; the latter may be evanescent, but the results seem lasting in terms of skills and self-knowledge. Similarly, emotional life may be solipsistic as we replay that track over and over, or transpersonal as we open ourselves to a Magnum opus, to a sunrise, to love of another human being. Social relations may be merely intersubjective – Meltzoff has seen this process in kids of a few hours old able to imitate gestures – or authentic. (The eagle-eyed will note my use of terms from European phenomenology and class struggle!).

In the "religious" domain, the Church has resolutely persecuted those for whom the distinction between God and Self has become as naught. Transpersonal experience in the emotions leads to an experience of an independently-existing aesthetic dimension; Beethoven famously conceived of himself as a a voyager across an independently existing landscape.

In all these domains, the encompassing briefly returns as our experience of Reality. This writer has lived for over two years in Trappist monasteries; it seems to be the case that ascesis of sensation is the best way for it to be maintained. Yet science is not relative to consciousness as Vedantins might like; it is simply an attempt to excavate reality from a "third person" point of view. The myriad attempts to get science to become intrinsically transcendent have culminated in the work of Bohm, which is discussed in the companion paper.

RELIGION AND THE SACRED OR, "I THINK I SHALL PRAISE IT"

The contemporary classical composer Kurt Erickson recently set to music a libretto called "I think I shall praise it", the final line from Hass's "We asked the captain". In Erickson's setting, the beast alluded to in the poem is "terrifying", a word repeated many times by the choir. When asked what he should do, the narrator resorts to praise as the appropriate response to something terrible to the point of being numinous, sacred.

Our religions hold as sacred variously “bread and wine” announcing the incarnation of Spirit.; diverse God-men, a range of books ; and finally laws – disastrously thought by some to supersede secular law. This issue of what to praise, what to hold sacred, is one we must confront.

First, the conditions giving rise to our existence involve truly awesome sports of nature are surely suggestive of the sacred. Secondly, the destruction of arbitrary state power, including theocracy leading to equality under the law. Thirdly, the terrible way of the cross that is everybody’s path through life to some felt realization. Fourthly, existentially no new revelation will be accepted without privileging subjectivity as pure observation in meditation. Finally, that configuration of the Biosphere we call Gaia. One thing we can learn from Islam is its celebration of the sacred manifest in an orientation to the details of everyday life. One thing we should avoid is the Caliphate.

And yet! Catholicism still does not accept the priority of state law. Israeli politics is warped by fundamentalists. It is arguable that, *in extremis*, societies infected by the Abrahamic God revert to an eschatological/millenniar aspect of their scriptures that allow science, morality, and the social order to be swept into one overwhelming existential realization. For reasons that are not altogether clear, humans like the 7th day Adventists function well even while anticipating imminent apocalypse. Problems arise when – as in the case of all the Abrahamic religions – the bloody part of the apocalypse can become a death cult among young men.

Separation from the Christian millenniar cults is one of the great achievements of Western civilization. The Enlightenment can plausibly be said to begin with the 1603 Descartes in Ulm. He is no longer willing to accept anything on authority; 5 centuries later, the worrying recurrence of fundamentalism provides exactly the type of solutions he rejects. Moreover these disturbing trends pretend to give solutions to social as well as epistemological issues. Descartes is limiting himself to issues of knowledge, on the way to bigger game.

His solution about whether he can be deceived about everything is “Yes I can” ;with the single exception that to think involves a sense of “I”. Let us note that Sankara, faced with a similar issue, came to a radically different conclusion that this “I” should be conceived of as existence itself. Descartes’ activism is what distinguishes West from East; his insistence that he can make something of himself conceptually ends with activist societies unfortunately now prone to destroying eco-systems.

We can rephrase Descartes in terms of neurodynamics ; there is a realm of experience in which action can be monitored, accessible to the sketchy sample of neural activity that comprises our consciousness. That realm includes our science, and much of what we teach in universities. It does not include the cognitive unconscious,

nor the myriad cosmic and biological coincidences that facilitate our existence. In the schema here these trends are sanctified in religious expression.

Nearly two centuries later, Kant puts our central issues as “What can I know and hope for? “ Implicit in this is the punctual masterful self of modernity (as distinct from the fragmented one of postmodernity). What we need to deconstruct in this self is the social and biological conditions creating it. We can then produce a religious expression that ennoble these processes. In general if order is immanent and gratuitous – as the constants of nature giving rise to our existence exemplify – this becomes part of the Sacred. Through meditative techniques, religion should celebrate our capacity to identify ourselves as pure subjectivity.

It may in retrospect seem clear that if Cartesian panic involves the fear of an overwhelming deceiving demon, the cognitive self will be used as the foundation of knowledge. Kant was then able to use the punctual, masterful self of Locke to ask questions like “What can I know?”. All three of these thinkers, in the scenario here, assume too much. It is argued here that all we experience fundamentally is a locus of subjectivity, now part of an encompassing reality a la Sankara, now persuading itself and acting on a feeling of agency a la Descartes. An epileptic will feel normally centered brain processes themselves as ego-alien.

So where does that leave us? It leaves us with a realm of Being – our most intimate social relations, our biological being, our cognitive and psychoanalytic unconscious – that are forever inaccessible. to focal consciousness On the other hand, our science and our technology are so accessible; indeed, we humans have mastered techniques that deliberately make certain skills unconscious in order to enrich what gets presented to focal consciousness.

What is being suggested here, in summary, is that Descartes above all explicates a realm of focal consciousness in which science can function. We will later outline why science can and should reparse its current division of nature. However, there is a realm that will remain unconscious. Sometimes a great artist can use the materials of his craft to make aspects of this conscious. It is remarkable how many of the greatest of these – Beethoven, Brahms et al. – had an essentially Platonic view of how they created. Art has become so debauched in our culture that the assertion of its capacity to incarnate the absolute is a sacred duty.

What of the field of consciousness studies? Since the first Tucson meeting the area has not progressed. It may be interesting for you to see what it looks like to an outsider; I am from Ireland and ran a series of conferences there (including inter alia, Karl Pribram, Baars, Stuart Hameroff, etc) before transferring ;to the USA (Kauffman, Stapp, the late lamented Walter Freeman etc.).

First of all, I found in existence what amounted to a very politicized atmosphere, with a clear division between insiders who published in JCS and Psyche and the rest of us. Our solution was to run our conferences and we then set up SCReview, which was getting 400 hits a day as far back as 2003. We now publish books, and on open source media; nobody has to pay to keep copyright.

Secondly, there is an elite who simply ignore data. The late Walter Freeman stopped applying for grants for this reason, as it was wasting his time and he depended on “walk-ins” like me; similarly, we produced the only computational treatment of Pribram's work in his lifetime. To take one example, IIT theory is demonstrably wrong; having published them in a Springer journal in 2011, we have repeatedly sent Koch and Tononi ECOG data showing greater entropy in seizures than normal waking. They have chosen to ignore these data, even after I spoke to Tononi in person.

Thirdly, the adaptation of the problem of other minds/explanatory gap to which the “hard problem” - not wholly inappropriately – has defaulted is risible and allows everyone be a scientist because, of course, it's a hard problem and so nobody has a solution! And, of course, once we solve The Hard Problem we will know what consciousness is. Chalmers himself apparently has some philosophical training and is I assume aware of this absurdity?

In the 19th century, Frege alluded to the problem and coined the term “psychologism” to describe a similar fallacy. We can a century later refine his objection as being about describing math entities in the terms of formally inadequate psychological operations. Even Piaget could not intuit how curved space, the Lagrangian and so on can be used by us primates. So epistemologically there is a problem here, one that we have no better remedy for than invoking the “unreasonable effectiveness of math”.

Let us continue. First of all, not everything “arises in consciousness”. We work hard to make our driving automatic, and to automate skilled movements like playing instruments. In that context, “consciousness” means no more than being awake. Moreover, much of our experience is of a world that is exigent, that has laws to which we are subject. These clearly arose in another's consciousness. There are also transpersonal moments in which a noetic reality transcendent to individual consciousness is revealed, starting with seeing the truth of a Godel sentence. To say all arises in consciousness, with its limited sampling speed in humans, is simply wrong; 99% of our activity occurs too fast.

Would I be right in thinking that ultimately consciousness is to be thought of in the Vedanta scheme as Truth-being-reality etc? Let us face it; close to a millennium of

Indian science after Sankara did not produce the technology to fight a small, aggressive island nation (that would be Britain). It is necessary to allow for a realm in which there is sharp distinction of subject and object for science to proceed. It is beautiful if we can also encompass Wordsworth's Spirit "that rolls through all things". Making elementary philosophical mistakes is a very bad start.

In the meantime, the Euro neuroscience project, as many of us predicted, has gone down in flames. The result is that someone with a Matlab emulator, some EEG data, and a decent knowledge of C can get further than the whole community as it stands. We at FOM certainly have done so.

So much for science and the arts and how Being knows itself through them. What of the Absolute itself? It is argued here that it is indeed closer than one's jugular vein at all times, and that the real success of one's life is about becoming aware of this. Meditation is one process; yet there are also moments of discovery and aesthetic ecstasy that allow greater such realization. The notion of the Absolute here has to cater for its diverse manifestation as quantum vacuum, fluctuation in which creates the cosmos, and numinous reality in our experience. It is argued here that it is beyond subject and object – the term Uroboros is appropriate – and is Logos, Energy, Awareness and Delight. If we wish to get rid of Galilean "primary" qualities, we can elide Awareness and Delight.

In conclusion, the choice of what to praise is in some sense arbitrary. We are seeking a description consistent with best practice in science and urgent social need. After science and the arts have had their say, there remain the myriad practices of our embodiment – eating, sex as a sacrament, entry into the community as an infant and as an adult, marriage, death – and these are best handled by the traditional religions

BIONOETICS AND CURRENT UNIVERSITY EDUCATION AND RESEARCH

We coined the term "Bionoetics" in 2006 to reflect modes of knowing beyond what it thought of as "cognitive"/justified true belief. We also believe that the current university setup is in many cases an affront to human freedom. "Bionoetics" uses the conclusion of the foundations of mind project that a creative synthesis of insights from science and religion can be found through a focus on levels of Being. While the primary meaning of "Bionoetics" is intended to reflect a notion of mind beyond current psychology, it also has consequences for education.

Aside from massive student debt and risible employment prospects for Ph.D's, the early 21st Century University has other profound problems. The disciplinary structure is a mess of different geological strata, excluding the 21st century and its urgent need

for focused departments dealing with hitherto “interdisciplinary” subjects like Cognitive Science.

In the age of the ubiquitous smartphone, students are asked to perform an acting job in pretending that their professors are more competent than those available through a single click on a browser. In the age of readily available neatly archived knowledge, a mafioso level scam is implemented with “anonymous” review, cartels of professors introducing their students to the fleshpots of the conference circuit, and interlocking boards of capi – sorry, journal editors. Of course, this feeds into the “tenure” scam, where a historical deal between the state and scholar to secure academic freedom for the latter is now a dead letter.

The solutions are blindingly simple. All basic courses are now available for minimum charge of the web. Academic articles can transparently be posted for equally transparent peer review and appropriately edited by the original writer., who might alternatively agree to disagree or ignore. *Cui bono* the present system? The corporation-dominated university and immensely profitable journals to start with.

Yet there is a darker agenda at work. The demonic social forces unleashed by the attempted neoconservative coup of 2000-2008 have been transmuted into a paralysis of political will. It suits purveyors of neoliberalism that students of political science can be indoctrinated to look away from the Wikileaks revelations of how diplomacy actually works. It suits them also that psychology students are not taught the elements of objective math models of reality and the real political order.

All this can easily be changed, and this is but a short foray into the area. Apart from the crisis in replicability of results and consequent retraction of papers that characterizes 21st century science, there are vast swathes of potential knowledge that remain unexplored as a result of the idiot savant microfocus of current science. “Dark energy” and “dark matter” are too well-known to be rehearsed here, are suggestive of a stage of crisis in science, but are mirrored in other areas. Examples are the fact that the “dark energy”/default network of the brain is currently suggested as absorbing 20% of human metabolic resources even when no cognition is taking place; linear models of the neuron are clearly too simple; the “dark nucleotides” result in non-coding rmas that actually code by any computing definition; and so on.

The recent accidental (sorry, “serendipitous”) discovery of CRISPR mechanisms now means that gene-editing is at the stage that Monsanto assured us a generation ago they had achieved. This opens a Pandora’s box of speculation about corporate influence on science, already accepted in medicine to the extreme that proves the rule that corporations have gotten so concerned about academics whoring themselves that they have started to do their own replication studies.

Contemptible as such influence is, the problem is deeper still. It is clear, after the bail-outs post-2008, that the number one value in our society is the right of quants to fiddle with numbers and, by financializing the economy, introduce what has become a neo-feudal system. The state pays for this economized status quo - using taxpayers' money against them - and then requires that the universities produce graduates to work in this Procrustean Uber/taskrabbit dystopia in the name of "competitiveness" in a market that has been carefully jury-rigged.

The result is that talented artists are being removed from the gene line as it becomes too expensive for them even to afford the white picket fence, let alone the house. It should be the duty of universities to ensure that humanities and arts graduates assert the transcendence of the realities to which great art points, be that transcendence achieved through language (like Mallarme) or conceived of as contact with an objective reality (like Beethoven). Nothing of the sort happens; indeed. this writer has sat at seminars with classical music students forced to endure disquisitions about Beyonce videos. If it is all about feelings - as distinct, say, from exploring the stack depth in Beethoven's recursive motif in the fifth - why bother with reality and value judgement?

Similarly, the social sciences feature instruction in Atheism 101 (using the Dover trial as a straw man) and - more subtly - an injunction to the students to regard political facts only insofar as they are relative to psychology. Famously, the Kerry 2004 campaign was ill-advised along these lines. Of course, you may not be interested in politics, but politics is interested in you, and such weak epistemological fences are easily breached later in life as people indeed tend to get more conservative.

So what can be done? It is clear that we cannot proceed further without looking at the goals of the larger society, which should include human beings living healthily in safe communities and free to explore their relation with a reality conceived of as wonderful. Tertiary education is a critical part of this, and has become subverted. So we can insist on total transparency in all research and pedagogy as a first step. We do not have to resort to new age woo-woo whose only virtue is a radical assertion of the reality of subjectivity; the current structure of the academy leaves unexplored many fertile areas of research on things meaningful to people. We can in fact build a structure of research and teaching built on a set of ineluctable propositions about humanity's relation to reality that cannot, even in principle, ever contradict best practice in science

One is to insist - the central Bionoetics propositions - that we humans are a process in which the universe has come to know itself, and that math exemplifies this. Before the acceleration of mathematical knowledge in the renaissance, we built

sophisticated societies based on co-operation through language; since then there has been a vast acceleration. Mathematics is neither more nor less than the most elliptical and precise expression of the cosmos knowing itself through us. This is irrefutable (as distinct from true, a slippier concept); the index of access to an objective reality through all the travails of constructivism, psychologism etc is the litmus test of math models working in areas like QM. Math contains access to entities historically conceived of as Platonic (*cosine, pi, e, ... etc*) as well as reflections of our cognitive and social systems. Indeed, math may be illogical as anyone who struggled with infinities knows; it may work in contexts it shouldn't with "bad" methods like non-converging infinities and QFT; underlying its success is surely something deeper than "cognitive" operations.

In the social sciences, students should indeed be taught the techniques of graph traversal that constitute part of modern sociological literacy. Yet it should be done in a context in which it is made clear to them that in the political sphere they are objects more than subjects, not to believe everything they think as our century has witnessed development of expertise in implanting narratives. In the arts it should be insisted that artists are often consumed by a vision of a reality transcendent to them, and the formal techniques they use (like Beethoven's stack, and his innovation of the diminished chord) should be explicated in properly respectful fashion.

Medicine should indeed focus on health rather than illness and preventive rather than cure or (the other extreme) "prospective" medicine, with Prozac being introduced to countries newly told they're depressed. Biology is in such crisis that it is the poster child for new explanatory schemas in science. Psychology does not yet exist, 150 + years after its initial replicability crisis. For the moment, we might insist on "psychological" concepts like simultaneity copying their correlates in physics.....

Now, of course, we have to make money. Or do we? For it is clear that the current model involves burdening students with debt so they will later be dutiful (if indebted) consumers. If there is a revenue stream, it will be in interdisciplinary degrees with max \$3k a year fees and astutely chosen research topics like those mentioned above. That may never make much money, but presenting it as an alternative is a radical and salutary act.

However, there is another possibility; introducing the scheme to students of science and the arts as an entrée into a vast, numinous, transcendent reality unavailable to them in the other colleges they are contemplating. For social scientist aspirants, we might point out that the activism that most of them are drawn to requires intimate knowledge of the forces in our complex society, and being told it is all relative to their minds is useless. For performing artists, we can stress that sophisticated performance is

likewise a profoundly revolutionary political act and one for which they should demand respect

BIONOETICS, SCIENCE AND SPIRITUALITY

The distinction between “science” and spirituality proposed here is novel. It is argued that the former deals with reality insofar as it is relative to reality and a fixed self. Thus, Descartes’ argument with an evil spirit who can deceive him is seen as melodramatic; once the argument is from the perspective of a fixed, stable self, the conclusion was inevitable that such a self is the fundamental reality. Yet science as conceived here is both broader and more precise than that taught in the early 21st century academy. It should be taught in that period between 18 and 22 in a “Bachelor’s” life, yet leaving open the possibility of more study and teaching. Religion, on the other hand, is lifelong, a tension between Dionysus and the Apollo implicitly worshipped alone in the academy.

What “spirituality” deals with is indeed all of this more encompassing science but also an experience of being itself transcendent to the masterful, punctual self of Descartes and Locke. Alternatively put, it deals with experience at a speed of sampling that exceeds focal consciousness. It deals with the social forces by which we are formed from an early age, and which rarely enter consciousness; the fragmentation of the beginnings of epileptic seizure; highly skilled performance in sport and the arts; and creating the social circumstances in which a stable self yet capable of transmitting Being can be nurtured.

A scientific perspective:

1. It is consistent to state that the universe came into existence from a point in space-time and shows immanent order resulting in us that can be explained either by the multiverse and/or fine-tuning
2. Ontological domains like the physical and biological require different causal and explanatory schemas. Thus biology requires Aristotle’s 4 causes; and moral explanation is ineluctable in the intentional realm
3. Math, whose efficiency is the touchstone of our sense of the objective, can as reasonably be explained as the cosmos getting to know itself through us as any future cognitive explanation
4. Wherever there is a clear leap in our logical capacity, as in our capacity to verify the Gödel sentence as true, this can be explained as Universal mind realizing itself through us.

5. While decoherence is the norm for the creation of things, there is a capacity within us to choose one from a set of superpositions, a capacity manifest in attention
6. As the ontological domain becomes richer, the nexus of order, information, causal explanation, and communication becomes more complex. There is a sweet spot in the classical world where one can speak of the entropy of a signal and a physical system, and use efficient causality. At the biological level, order and thus communication need hierarchy, syntax and semantics, information needs work, and this is continued at the even more complex psychological level with reflexivity entering as the object becomes a subject. At this point, we use the artillery of folk psychology.
7. The immanent ordering and “memory” of nature manifest in crystal formation, homologous evolution and simultaneous discovery will always be explicable as Platonic form as much as empirical such.
8. Ontological domains inherit not just constraints, but useful techniques from less complex such; eg treating the brain as a far-from-equilibrium dynamical system leads to a host of insights/a new paradigm
9. Dualism and free will are intellectually defensible, as is Platonism
10. The structure of the 21st century academy is geological strata of irrelevance and abuse of power.
11. Neuroscience, to be veridical, should make its model of the reality less structured to the point of being simply a power spectrum and make its model of neural process far more formally complex. It cannot be simpler than what brains have proved themselves capable of
12. There is a “Zero power” capacity for observation in the brain, identifying oneself as pure subjectivity as the brain’s metabolic demand minimizes.

As spirituality

1. It is consistent to state that the universe came into existence from a point in space-time and shows immanent order resulting in us that can be explained either by the multiverse and/or fine-tuning
2. Being is manifest through us, whose chemical composition is a relic of an older cosmos, and whose spiritual, psychic, emotional and physical capacities must be honed in order to manifest the ground of Being;
3. There is a moral imperative to save that configuration of the Biosphere we call Gaia as to perfect our society;
4. The sacred includes the great achievements of Western culture, including its science, democratic freedoms and Art, and their correlates in other cultures

5. The attitude of reverence for Life and appreciation of the divine in each human must be translated to objective, but appropriately complex reasoning when doing science
6. The rites of passage from the major religions (age of reason, matrimony etc) should be complemented with the rituals of neo-Paganism like Bealtaine
7. Observation is causal at the quantum and psychological levels. The first step to healing/self-improvement is the capacity to observe oneself. This is non-trivial and requires recruiting the organism for this observation.
8. Being the space for observation involves admitting the possibility of different narratives present in one's brain, with only one presenting itself to consciousness at a time.
9. There is no magic bullet for control of metabolism. It involves willpower, and the suffering involved will be conscious.
10. "Zero power" should be sought and cultivated outside the academy in meditative and other training contexts.

It is arrogance beyond belief to "create" a new "religion" and we do not propose anything other than outlining the parameters of what constitutes religion as distinct from other experience. Essentially, we locate the essence of religion as humanity's experience of the sacred, the "divine" in Durkheim's phrase. He went on to argue that society contains mechanisms for the creation and imposition of the divine, through psychologically subterranean channels. It is clear that the inappropriate such imposition has led to some of humanity's darkest moments, not least in our contemporary middle east.

We insist, therefore, that any new "religion" respects right of conscience and republican democratic citizenship. We insist that it be consistent with best practice in science. Above all, we insist that it upholds as sacred Enlightenment freedoms and the protection of the Biosphere. However, we grant it the freedom to consider human existence, and the biosphere sacred. We argue that those biological and social processes in which we move and have our Being are given to us as a gift, are not currently within the realm of science – often requiring explanation in terms of the anthropic principle – and are, above all, transcendent to consciousness and to the action of our will.

We can allow gates that open both ways; to spirituality and science. The central such gate is obviously the fact that our science sees levels of being as scientifically salient – indeed, paramount. The spiritual processes proposed are above all concerned with an Absolute considered as emanating through these levels before culminating in us and what looks like our sacred quest to realize ourselves in this

fragile life-sustaining configuration of the Biosphere. We can conceive of the Absolute as pure Act, Being, and a force in our lives.

To argue that math deals *inter alia* with Platonic entities enriches the things presented to consciousness and is consistent with science. To continue that the “unreasonable effectiveness” of math is nature knowing itself through us in the starkest possible way allows us to explain our experience as the Absolute manifesting in us in other ways also. To argue that causal explanation changes with ontological domain allows a gamut from efficient causality in physics to folk psychology/moral explanation in human affairs to the sacred as a mode of experience as we come across the vanishingly unlikely conditions of our existence.

Arguably, the West has never produced a world religion. The forces it has nurtured in society facilitating freedom of conscience and of speech are awesome in the real sense of that hackneyed word and have led to that method we call “science”; but for a set of practices leading to an experience of the absolute, the west has borrowed from the Abrahamic religions until its recent fixation on Indian thought.

We propose a center in which free thought, free research into reality, free economic activity and ways of knowledge beyond those regarded as the “cognitive” are explored in an environment which treasures gradations of Being leading to the sacred, including computer programming that veridically breaks out of current paradigms. Our program plays on the Greek for “life” and knowledge”; we indeed are focused on life and mind.

As the foundations of mind group – which in its first two years published over 70 original research papers, many by the world’s greatest scientists– we found ourselves impelled into a perspective in which gradations of Being first were computationally significant and then paramount. For example, it was clear that biology should be treated using syntax as well as mere statistics; in a further step, we found that Aristotle’s four causes were salient for biological explanation. Indeed, reality at the quantum level is sometimes acausal; it is not heresy even in Catholicism to suggest our cosmos came into existence through a quantum fluctuation. While efficient causality governs our explanations in the physical world, completing the ontology, we found ourselves after bigger game.

That game is summarized in the phrase “Being first!” It is not just our consciousness which, *pace* Descartes, is primary; it is our experience of embodiment, our internal narratives, our breath. In turn, we find these narratives are often politically-generated; a critical step in self-knowledge is that offered by critical theory, an awareness of sociopolitical forces. That distinguishes us from non-dualists, who

insist that they have reached a level of analysis preceding the fact that their very ashram is a socially protected entity.

So we accept the political as ineluctable, and revere the solutions of revolutionaries like Jefferson. That introduces a new set of categories in the sacred; life, liberty, the pursuit of self-realization, the democratic process, privacy and freedom of expression. If, as Kolakowski argues, religion is man's experience of the sacred, these are now sacred, violated as they have been since 2001.

Moreover, certain other ineluctables present themselves. Artists spend fortunes on instruments with the right tone for music with only a tiny audience that can hear the difference, let alone pay to hear it; parents spend small fortunes in private academies, absent state education in the arts; the response from the state universities has been aesthetic subjectivism to complement the moral subjectivism that accompanied the state spying on its citizens. We therefore assert as sacred art which has an attested community of practice and demonstrable complexity; an example is the recursive statement that opens Beethoven's 5th, a statement with a measurable stack height.

It is clear now that metabolism affects gene-expression; moreover, these changes seem heritable. This was folk wisdom, upheld even during the glory years of Crick's "Central dogma". Again, people worked hard at sport even when being told that a magic pill would appear. "Being first!" also asserts these acts as sacred.

There is indeed a source of attention in us that precedes an empirical sense of self as physical sensations or mental narratives. From Plotinus and other neo-Platonists we will accept that this eye with which we see is the Infinite eye that also sees us. Yet this attention is accessible only through training, absent a great personal trauma or other upheaval. In general our mental state is narratives; our bodily state is sensations due to the computational architecture of the human brain, the former in particular have ego identifications associated with them which we string together like beads to form what we believe is a coherent "I".

As well we might; this is the system that falls apart in epilepsy and other blackouts. A breakthrough in 21st century "New Age" thought is the necessity of maintaining some ego-identifications as the "space" to experience the world. That should not be confused with that which is One with the Infinite in us, the attention that adds refinement to the arts. Much of the rest of our experience is the brain's lining up hypotheses about the world and having them reinforced (ego-reinforcing) or refuted (ego-alien),

Western disciplines like Feldenkrais allow such ego-alien confounding at the physical level in a safe environment; Gödel showed how this can be done mentally. Above all, the environments in which these happen must be understood to the result

of material conquest of nature, often the result of genocide of native populations, and finally the apotheosis of the Absolute emanating itself which we are.

We now have established a community of practice sketched above in the arts, in medicine and in politics, including the politics of experience. We see ourselves as manifestations of Godhead in the most general sense; as a ground of Being. We see purpose as clear in the cosmos, be that a coincidence of fine-tuning or simply winning the multiverse jackpot. That said, we can explore the science related to our reparse of nature.

To paraphrase Einstein, our science still just scrapes the surface, but is precious. FOM always asserted a radical human freedom; it also pointed to the primitive linear neuroscience and extravagant claims about the structure of perceptual data of its rivals. In short, we are more scientific than the scientists. We explore nature using different causal schemas for different levels of Being, in a manner consistent with our assertion of the Sacred in communities of human practice. At no point do we need to contradict best practice in science, and historically we have never charged money for publication, required an author to transfer copyright, or treated a sincere query with anything but utmost respect and support. Bionoetics as a scientific term includes the proposition that, in order to understand how we primates managed to learn so much about our cosmos, we must extend our analysis beyond the often formally inadequate concepts of cognitive psychology. Moreover, Bionoetics argues that the arts provides ways of knowing that are equally valid as those of science. Finally, Bionoetics starts its analysis of nature with Being itself, accepting as givens only best practice in science and the arts and the equally certain fact Descartes “cogito” pointed to; there is something I can make of myself, at least conceptually.

Bionoetics accepts best practice in science and believes that this does not preclude the salience of free will, nor that of Platonic entities and other “nuons” (to coin a phrase) which perhaps are quantum entanglement results. Bionoetics is registered as a religion in the state of California. As such, it proposes an ethical code, and practices that, if experienced in the right context, augment one’s Being, one’s mastery of oneself. Many such are available in the arts and indeed physical disciplines mentored by “personal trainers”; it is argued that these contexts allow for situations in which quantum effects are salient in psychic experience.

Consequently, you are not ordinarily this endless sea of bliss. You are an immensely privileged person with the time to read and consider this in an environment with Maslow’s basic needs fulfilled. Yet you have immense potential that you are not tapping, because of lack of knowledge as well as laziness. Our universities have become little better than indoctrination centers; there has been hardly a decent scientific theory

since 1970. While done in a religious context, our courses give you a proper introduction to the sciences and arts, one that caters for self-transcendence as much as brilliant technique.

You are capable of union with God considered as ground of Being. You are capable also of throwing your life away with a stream of mass media-planted narratives occupying the content of your consciousness. You must first learn to meditate, to identify yourself with an authentic core of observation in yourself. That means the healing has begun; we can now begin to cure your mental ills, and to increase your skills. Yet the achievement of this first step may cost you everything you currently hold dear including risking exactly the food, shelter and so on that constitute the bedrock of your security.

Descartes is a forerunner of modern angst. We narrate continually to ourselves, particularly when facing into social forces that blow us off our feet as we hapless primates try to maintain what is often an illusion of agency. Descartes worried about an evil spirit and posited his self as antithesis; we deal with Western governments that illegally foreclose our houses and spy on us. If there is a breakthrough in psychology associated with this project, it is above all about analyzing clients' narratives for indications of being subjected to inappropriate, abusive forces and returning the clients to the clear consciousness that is their birthright

There is nothing more wonderfully productive of security than told we are loved as we are, by people and by God. Yet it is consistent with science to interpret this as a sacred consideration of the forces that manifest this Gaia configuration of the Biosphere, and enjoy the political and economic freedoms that have gifted us such a varied experience

Bionoetics asserts as sacred processes that otherwise are not being protected. It accepts the Enlightenment innovations of freedom of conscience, freedom of intellect, freedom from unwarranted state intrusion, the separation of Church and state, and so on. These should not need contemporary protection; yet technology allowed spying by the state that came to light only in 2013. Similarly, freedom of intellect is not being honoured by universities that charge students exorbitant fees for participation in a process that involves a massive disparity of power between student and teacher.

All this can be changed simply by publishing, that is, making public, the deliberations of non-elected bureaucrats that have created a "deep state", and all educational processes. So the Social contract can be changed back in our favour. Yet much must still be asserted as sacred for its protection; a century of aesthetic and moral relativism has produced a toxic climate. Learned disquisitions state the equivalence of Beethoven, whose 5th symphony shows recursion, and the nursery

rhymes of rap. We can make informational distinctions between music not only on the basis of the stack, but technical harmonic analysis; the same applies to visual art, and performance is of course its own yardstick

We argue that non-judgmental observation of an interior process is where Apollo meets Dionysus, Vishnu meets Shiva, and cognition meets metabolism. The word “awareness” might be reserved for this process, allowing the creation of an authentic center – a soul, if you will. That such moments increase professional and athletic competence is no coincidence.

Finally,, we are pro-life in the widest sense; one that acknowledge the debt society owes to women in all their stages of life, one that reveres Gaia, one that accepts that killing a healthy fetus is as abhorrent as artificially prolonging a life of suffering

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APPENDIX; THE TECHNICAL PROPOSAL

I. Multimodal, BCI interface to a virtual environment.

The first involves a system (“SONAS”, Gaelic for “happiness”) that was originally developed in 1999 to help physically challenged people access information; https://www.youtube.com/watch?v=gDZ_GOt13eg

To update the SONAS system, we have identified the following modules and cheapest available implementations for these modules;

1. The speech processing can perhaps be done with an application built over CMU’s “Sphinx” or an equivalent like the Android app;
2. The language parsing was originally the ANLT that is GPSG with semantics in lambda calculus with betas reduction. We can perhaps hack together a demo with definite clause grammars while we research a properly principled version;
3. OPENGL ES can handle the graphics which now need to be up to the standard of current apps like Oculus Rift
4. Instead of a data glove systems like Wii use tech like lasers.

The system could also be augmented by Oculus and a simple BCI bought off the shelf which of course we will pay for, along with any other outgoings.

II Getting real neurons to do Fourier/Gabor transforms.

While the current “neural net” approaches of deep learning seem impressive, we believe along with many in the community that simply calling them “convolutional nets” is more accurate, as they are not neural, assuming a linear model of the neuron on which they impose non-linearity in a randomly-chosen transfer function. We propose a neuron that is a harmonic oscillator. Similarly, their model parses photos from the web that already exploit Western laws of perspective. We propose that no such assumption is valid, and all that exists out there is a power spectrum.

In that we follow the great American scientists David Bohm and Karl Pribram whose metaphysics and epistemology of perception is explored at length in our Feb 2016 book. We attach a summary of this approach; the task of the student is to implement the system described in the attached slides about the Bohm/Pribram model.

It involves resonate and fire models of the neuron based on the harmonic oscillator which are available open source in;

<http://freesourcecode.net/matlabprojects/65239/fitting-critically-damped-simple-harmonic-oscillator-in-matlab#.VmcQHG4U6pp>

<http://www.compadre.org/osp/items/detail.cfm?ID=8290>

III Homoiconicity in LISP and DNA

Genomics has peaked; the low-hanging fruit have all been discovered, and it is now assumed that 98.5% of the genome is “non-coding”. This is our view is premature closure; why not explore “Homoiconic” programming languages ie those in which, like DNA, data and programs have the same form? Code which needs to be implemented is outlined at:

<http://cosmosandhistory.org/index.php/journal/article/view/403>