

ON SOME TYRANNIES OF WORDS

A LETTER TO DEEPAK

Hal Cox

This letter has 4 stars in order of appearance, **the Mechanical, the Spirit, the Sacred, and the Soul**. It is inspired by universalism, the late 19th Century ethical view from the Bengali Renaissance. Essential to human survival is the adoption of universal principles. This was richly shown by the instincts for tolerance of Others among the members of the United Nations in the 20th Century. This tolerance needs to expand in the 21st Century in the full scope of Deepak Chopra's challenge to take physics beyond the physical. We suggest this first means naturalizing the usage of these words in mixed and polite discourse about physics and biophysics.

Dear Deepak,

Thanks for the links to your new papers in *Activitas Nervosa Superior*^{1,2}.

I write in response about the tyranny of our words, one you used, some you did not.

I also write about the tyranny of the absence of shared meaning that demands we construct a semiotics of our world languages to agree and provide a universal basis that stands against that absence. That is a semiotics with

¹ Deepak Chopra, "Physics Must Evolve Beyond the Physical," *Activitas Nervosa Superior*, April 29, 2019, 1-4, doi:10.1007/s41470-019-00042-3.

² Ashok Narasimhan, Deepak Chopra, and Menas C Kafatos, "The Nature of the Heisenberg-Von Neumann Cut: Enhanced Orthodox Interpretation of Quantum Mechanics," *Activitas Nervosa Superior* 49, no. 17 (April 27, 2019): 1-6, doi:10.1007/s41470-019-00048-x.

semantic reference to a shared physical reality in which the 4 stars may be universally acknowledged.

THE MECHANICAL

One word is simply 'mechanical'. How do we puzzle out the widespread sense of ennui associated with the reduction of the world to the merely mechanical?

In your essay, "Physics Must Evolve Beyond the Physical" you wrote:

"But nothing mechanical will explain reality or ourselves or how to get out of our many predicaments. Consciousness answers all of these riddles, and even if we cannot see where the trail leads, we certainly know where it begins."

The mechanical is finite. There's an implicit yearning for the transcendental and the infinite that partly motivates its rejection. But a larger story was told by Rabindranath Tagore.

*Incense yearns to disappear in scent,
Scent to cling to incense.
Melody seeks to fetter herself in rhythm,
While the rhythm flows back to melody.
Idea seeks its body in form,
Form its freedom in the idea.
The infinite seeks the touch of the finite,
The finite its release in the infinite.
What drama is this between creation and destruction-
This ceaseless to and fro between idea and form?
Bondage is striving after freedom,
And freedom seeking rest in bondage.³*

Thinking of Tagore, I interpret Henry Stapp's recent usage of 'Quantum Theory'⁴ instead of 'Quantum Mechanics' to acknowledge something beyond just mechanics: the nondual union of the finite discrete quantum world and the infinite *res potentia*, the potentiality that Heisenberg first understood⁵.

This nondual view implies that something both finite and infinite explains reality and ourselves. Consciousness is our vehicle for exploring the infinite but

³ Rabindranath Tagore, *The Later Poems of Rabindranath Tagore*, translated by Aurobindo Bose, 1976.

⁴ H P Stapp, *Quantum Theory and Free Will*, 2017, doi:10.1007/978-3-319-58301-3.

⁵ R E Kastner, Stuart Kauffman, and Michael Epperson, "Taking Heisenberg's Potentia Seriously," <http://arxiv.org/abs/1709.03595v5>, September 11, 2017.

it is embodied in our finite places in time and space. It is Tagore's paradox.

THE SPIRIT

Another object of tyranny is 'spirit' or the 'spiritual', unused in your personal essay for Henry Stapp's Festschrift⁶.

Brian Josephson dared in a 1987 essay to write about physics and spirituality as the next grand unification⁷. There is a tradition that identifies spiritualism as a philosophical doctrine associated with the meaning of time⁸. I hope this is a word you may likewise try to naturalize in the context of physics evolving, but it seems like an insuperable challenge given the firmness of certain *a priori* beliefs and the emotional responses of those threatened. Let us talk about them.

I take a sociological and linguistic approach to try to get at the physics of this phenomena.

Perhaps many readers will not even know there is a physics of the problem of the spiritual or the spirit? Maybe they have even *a priori* exiled the topic from own their polite discourse?

In every ontology there is an effort to explain some part of the world. The ontology of Physics as a discipline is founded, with the greatest hubris, to explain everything in the world and in the universe. The other well-founded ontologies, such as sociology, linguistics, & anthropology have more modest ambitions. However, I propose to take them each on their own terms, and reject the ideas or claims that one or another may have some primacy.

ONTOLOGIES WITH LIMITED SHELF LIFE

At any point in time, such ontologies are only finite machines bound to fail or fall short as they age, and as the world, the unpredictable emergent Tao,

⁶ Op cit., Chopra, "Physics Must Evolve Beyond the Physical."

⁷ Brian Josephson, "Physics and Spirituality: the Next Grand Unification?," *Physics Education* 22, no. 1 (January 1, 1987): 15–19, doi:10.1088/0031-9120/22/1/002.

⁸ "Bergson and Time", <https://www.bbc.co.uk/programmes/m0004sgw>, paraphrasing Mark Sinclair at 8:25, "Spiritualism here is a philosophical doctrine that affirms the reality of the human mind. The self is free as a function of its agency. The spiritualist tradition has opposed the principles of freedom to the material world. Matter is already an expression of mind, a pan-psychic tradition, Bergson's PhD thesis on time and free will."

evolves and moves beyond them. In our finite perceptions of our narrow slices in time we must therefore learn to be able to reject ontological hegemonies - even as some ontologies may be hard wired into our own connectomes as implicit *a priori* beliefs.

EPIGENETICS AND DEVELOPMENT

The modes of hard wiring are being discerned at the DNA and anatomical levels modulating and reflexively modulated by developmental trajectories as revealed by comparison of inheritance between chimp families versus human families. The explicit finding of “Relaxed genetic control of cortical organization in human brains compared with chimpanzees” reveals the adaptive abilities of humans with a more plastic developmental biology that may be tuned by culture, socialization, and education with family, friends and teachers⁹. Thus *a priori* beliefs are in a sense firmware¹⁰-wired by the cultures of humans (a potentially dangerous or useful notion for robotics and the education of their species).

One may upgrade and reprogram firmware, but the *a priori* type of human beliefs often might as well be hard wired since they are sometimes practically impossible to change, though that is perhaps only an illusion that blocks Aufklärung, using Kant's word for enlightenment with its corollaries¹¹.

Firmware-wiring helps endow developing humans with a broad spectrum of culturally relevant talents, from the mundane to the extraordinary - seemingly extrasensory, when it may only be the case that we have simply not discovered the biology of all the qualia or senses. This was indirectly suggested by Stu Kauffman in the same volume of your essays¹².

⁹ Aida Gómez-Robles et al., “Relaxed Genetic Control of Cortical Organization in Human Brains Compared with Chimpanzees.,” *Proceedings of the National Academy of Sciences of the United States of America* 112, no. 48 (December 1, 2015): 14799–804, doi:10.1073/pnas.1512646112.

¹⁰ Firmware is technically provided by a system manufacturer and may be reprogrammed during a system's lifetime.

¹¹ I Kant, *Beantwortung Der Frage: Was Ist Aufklärung?*(1784), 1845.

¹² Stuart Kauffman, “Mind, Body, Quantum Mechanics,” *Activitas Nervosa Superior* 77 (April 15, 2019): 1–4, doi:10.1007/s41470-019-00045-0. An experimental approach suggested may be used to study known and hypothetical qualia.

ILLUSTRATION OF THE SPIRIT

To illustrate, I propose a physical analysis of this ‘spirit’, shamelessly poaching upon some branches of anthropology.

We simply identify spirit with the motion of particles.

The spiritual world is physically real but it is dynamic, it is not the stasis of the material particles, nor even just their creation or destruction. It is their motion, the material and the massless immaterial in time that embodies the expression of the infinite *res potentia*¹³.

About *res potentia*: in each of the quantum interpretations there is a generally equivalent representation of this, for example in terms of the wave function projected into the future along an infinitude of paths, and then mysteriously integrated at a decisive moment to account for the finite path finally taken.

Spirit lives in the time dimension, not the space dimension, meaning it cannot be captured as a spatial snapshot in a block universe, made a block by the photographic image. So, spirit is motion, and it exists only expressed by the finite machine of the body's behavior touching infinity through consciousness - where infinity is at least the practically unbounded dimension of things possible.

The path the particle takes to evoke the spirit is a finite path, but it is chosen from among an infinity of potential paths worthy of the poet's imagination.

THE SPIRIT AS SPECIES OF THE DYNAMIC

The spirit is only an active dynamic. It is not seen in the static slice of the block universe, even with every particle on its own path, with its own geodesic governed by its private differential form describing its own projected changes in time past and time future.

The spirit may be all the particles, being created, being destroyed, and interacting directly and through their non-dual massless field particles over some interval of time therefore bound by some physical laws or, one might say in the big picture, embodying some physical laws.

And this spirit may be also physically restricted to some interacting

¹³ *Op. cit.*, Kastner, Kauffman, and Epperson, “Taking Heisenberg's Potentia Seriously.”

agencies, some spirits (dynamics) in their own world geometries or in their non-local topologies entrained by media such as trees¹⁴ or telegraphs or telemedia¹⁵ or non-locally connected on the sphere of the holographic universe¹⁶.

So, the spirit is not a material thing, but rather it is the class of ‘things’ living among the patterns of dynamics exhibited by the material things.

As such, the broadly defined spirit is clearly real. It is just that which moves in some organized patterns. Clearly physically real. But how does it conform, or not, to the sociology and the language and the anthropologies and ecologies of humans and other life?

BAYESIAN BRAINS IN A CULTURE

The properties of the spirit are embodied in each culture by *a priori* beliefs, where the members of that culture have instantiated those beliefs in thought forms as dynamical patterns of their natural biological or synthetic networks. We consider a thought being some dynamical pattern, not something represented by a finite coded collection of neurons in a moment of time¹⁷.

Nietzsche invented a popular meme, a thought pattern, with a side effect of killing the Sacred, my revealing the news that God is dead¹⁸. This was propagated into the world culture by some thought-leaders, and as many others adopted that meme, then God became dead as they changed *a priori* belief or as they denied sensed perception by some qualia¹⁹.

This belief pattern, that God is dead, is only a type of superstition when viewed from a neutral ontology. The common definition of superstition, “excessively credulous belief in and reverence for supernatural beings,”

¹⁴ D G Haskell, *The Songs of Trees: Stories From Nature's Great Connectors*, 2017.

¹⁵ M McLuhan and L H Lapham, *Understanding Media: the Extensions of Man*, 1994.

¹⁶ Vladimir Rosenhaus, “The Holographic Principle and the Emergence of Spacetime” 2014, http://digitalassets.lib.berkeley.edu/etd/ucb/text/Rosenhaus_berkeley_0028E_14218.pdf.

¹⁷ Singular material traces of thought in the material brain cannot be found because the patterns of thought are determined by the whole context of the material brain subject to the whole body’s influence & its externalities.

¹⁸ https://en.wikipedia.org/wiki/God_is_dead

¹⁹ Sense perception of spirit beyond oneself is commonly encountered in Tai Chi & Chi Gong. It is produced by ordinary type of qualia known to all humans but only cultivated by some. We are not identifying God with chi energy, but admitting that we do not know all the qualia humans may perceive in the dynamical world of spirit as defined in this letter.

assumes that God is a supernatural thing. Here we recognize on the bases of elementary principles that spirit is a natural physical dynamical process, and we may readily infer that any emergent higher order structures or dynamical processes are also natural, in so far as they exist in time or even in alternative time lines manifest by the spirit (the dynamics) of the brain's memory of past and imagination of future²⁰.

Likewise, if belief patterns as superstitions emerge and spread among the behaviors of a culture that have no *a priori* basis in known material facts or artifacts or behaviors like technology-constructed sciences, logics, or mathematics, then we cannot exclude that they may have some real basis in a larger cultural dynamic. That includes the culture's collective dream world.

And it includes the need for congruence with universal law of tolerance and respect and against the impulse of the imposition of hegemonic *a priori* belief on Others.

Whatever may be perceived as superstitions, those perceptions must not lead to the violation of universal laws of tolerance and the right to defense against and freedom from ontological hegemony²¹. The essential need for tolerance of belief patterns that conforms to universal principles must stand upon the respect of other ontologies without hegemonic intentions to impose belief, subject to agreed universal laws and ethical principles.

Atheism as practiced in this part of the 21st century is sometimes too intolerant and seeks to impose by establishing its own hegemonic high ground²², and therefore not only unsociable and but also an inflammatory source of alienation - except maybe for the lucky by the grace of Buddha's salvation²³. The thought-leaders of atheism should first respect real physics, or

²⁰ Naoki Nomura et al., "Time From Semiosis: E-Series Time for Living Systems.," *Biosemitotics* 11, no. 1 (2018): 65–83, doi:10.1007/s12304-018-9316-0.

²¹ The idea of ontological hegemony comes to me from Mei Zhan, a medical anthropologist from UC Irvine, who spoke on "Reimagining Knowledge Production Alongside Chinese Medicine" at UC Berkeley, February 11, 2014. She carefully dissected the ontology of contemporary academic Anthropology and rejected its applicability to Traditional Chinese Medicine by the nature of its hegemonic framework.

²² R Dawkins, *The God Delusion*, 2016.

²³ Sam Harris represents a leading and forceful advocacy of Buddhism and atheism, teaching techniques or perspectives from Buddhism interpreted through his philosophy and neuroscience. The goal of Buddhism to eliminate suffering is balanced by a paradoxical teaching of emptiness whose notion elicits

the most realistic, conservative and proven physics, if it proves to be well described in their open minds. The wise women advise to see as a child, with creative integration²⁴, with a mind yet unwired by the culture's educational programming²⁵.

If more accurate physics and biophysics of the spirit is needed, I hope it may be described by others to improve upon the semiotics of my description with its puzzling self-recursive nature.

THE SACRED

Another word you missed was 'sacred' as in 'the Sacred'. The tyranny of the abuse of this word is the claim that nothing is sacred. I acknowledge recent efforts of many scientists and philosophers to recover some idea of the Sacred^{26,27}. My own recovery stands on what every human being may acknowledge as sacred, their essential biological, biophysical human nature. By being Sacred, human nature should be protected. It should not be faithlessly mimicked.

THE PARABLE

There is a parable from Genesis about the fall of man now interpreted in Hebrew scholarship of Babylonian King Nebuchadnezzar who dreamed a great architecture²⁸ and destroyed the inferior architecture of the religion of those Hebrews who lived in and attended Jerusalem.

After the destruction of their temple, their scribes re-assembled and

compassion, according to the sages. Without the Buddhist teaching, emptiness, like atheism, may lead to depression. The neuropsychiatric focus of Buddhism on this axis recalls the interpretation of Jeffrey Moussaieff Masson in *The Oceanic Feeling: The Origins of Religious Sentiment in Ancient India*, 1980, that Buddha suffered from melancholia and that any attempt to gain some understanding of him must come to terms with his depression.

²⁴ A Gopnik, The Gardener and the Carpenter: What the New Science of Child Development Tells Us About the Relationship Between Parents and Children, *Cognition*, vol. 96, 2016, doi:10.1016/j.cognition.2004.07.003.

²⁵ *Op. cit.*, Aida Gómez-Robles et al, "Relaxed Genetic Control of Cortical Organization in Human Brains Compared with Chimpanzees."

²⁶ N E Abrams and J R Primack, *The New Universe and the Human Future: How a Shared Cosmology Could Transform the World*, 2011.

²⁷ S A Kauffman, *Reinventing the Sacred: a New View of Science, Reason, and Religion*, 2008.

²⁸ <http://www.bbc.com/culture/story/20150302-ancient-babylons-greatest-wonder>

finalized the five books of the Torah with the opening story symbolizing the recent fall of their Hebrew city king.

Archeology and written records identify the temple in Jerusalem as one sculptured representation of the garden in which the typical city god lived, both as a palace and a temple, the same building with bas reliefs and paintings of gardens on the walls. The king's palace was not separate from the temple which was a constructive model of a garden.

Jerusalem's practice was that of only one city in a larger culture of polytheism with similar practices. For the typical city, the king's role was to communicate with the city god on behalf of the people. When the Hebrew king was thrown out, and his temple destroyed, the psychic shock created an impulse towards monotheism among those driven from Jerusalem - denying all the other city gods and building their own origin story.

Scholarship seems to show there were many YHWHs, local mountain gods for each of several nearby cities, before this Invention of God²⁹ as told by Thomas Römer.

This parable is my interpretation of both Römer and an evidence-based history by Francesca Stavrokopoulos, in a BBC documentary circa 2011³⁰.

THE READER'S JOB

The teller of the parable seeks to engage the listener's close attention. This is a parable for our own imagination about our sacred human nature. We are being driven out of our Temple. The Nebuchadnezzar in our dreams is the technology of engineering war machines in defense of national or other *a priori* belief systems.

These are the very systems paradoxically cultivated, by evolution, for survival, and primed for struggle by threat of the Other³¹.

What beliefs may be invented that may displace this sacred human nature, I

²⁹ T Römer, *The Invention of God*, 2015. This is about the historical framework that led to the invention of monotheism by the defeated people of Jerusalem.

³⁰ Season 1, Episode 3, <https://www.netflix.com/title/81059684>

³¹ Evolution endowed human groups, bands, tribes, cities, nations with an instinct for survival that turns against the threat of the Other, those not in the group. This is a biological impulse that is part of the human hard wiring that needs taming since it is leading to global self-destructive behaviors of the humans and the species in the planet ecosystems.

don't know.

I would like to preserve the *a priori* belief in this sacred human nature as a universal value and not sacrifice the human Self to the corruptions of technologies that mimic or mutate. This is the sacred thing, this human nature which, like all of Nature, we should hold sacred in defense of the planet Earth.

The physical reality of spirit acknowledged by modern physics should help, especially by contributions from anthropologies and the acknowledgement of universal human values that may endow our dreamed or feared spiritual machines³².

Belief systems in the spiritual world of any culture are constructed as *a priori* circuits in the dynamical systems of the culture members. Many of them may be well adapted for the universal human purpose of the preservation of the Sacred, that which is sacred to all humans, their human nature. That is, if a universal harmony may be found among all humans by mutual understanding of their individual and collective biophysics of belief.

I wonder if humanity might heed this parable?

There is some sincere optimism after listening to Stuart Russell's interview with Sam Harris in a podcast with George Dyson and Alison Gopnik³³; the 3 are representatives from John Brockman's collection of essays on AI³⁴.

THE SOUL

On the soul, dear brother, the tyranny of its denial is the denial of the essential spiritual self.

I imagine usage of the 'soul' implies a personalized interpretation of the spirit or the process of the spiritual. So, when I read words about the importance of attending to the problem of the soul³⁵, that transfigures in my mind to the collection of personal and impersonal or transpersonal effects of the Spirit.

³² Whose age is promised sometime real-soon-now, or maybe much-later. ¿Quién sabe? R Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*, 2000.

³³ <https://samharris.org/podcasts/153-possible-minds/>

³⁴ John Brockman, *Possible Minds: Twenty-Five Ways of Looking at AI*, 2019.

³⁵ Paul J Werbos, "Quantum Measurement, Consciousness, and the Soul: a New, Alternative Position," *Activitas Nervosa Superior* 116, no. 23 (April 16, 2019): 1-7, doi:10.1007/s41470-019-00038-z.

These build topologies of the spirit connected by local and remote media. The idea of the bioanthropology of the atman, as a collection of personalized spiritual expressions called souls within a given group or tribe or culture, generalizes in the large to the idea of the Atman (collection) of the universe of human and non-human consciousness that I imagine you wrote about, thanks to the universal perspective, as shared by Tagore, Aurobindo³⁶, and many others from the Bengali Renaissance and many other well-springs of universalism that I regret not mentioning here.

SIC SEMPER TYRANNIS

So, having fought the tyranny of our language with various propositions inflected by my own tyrannies (ontologies), I end by thanking you for expressing that physics must evolve beyond the physical, and acknowledge that only the trajectory of that evolution must now be selected,

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P.S. with the pervasive failure of Physics to predict emergence in sufficiently complex systems, we may also claim from a certain point of view that there is no physics of consciousness.³⁷

³⁶ On Aurobindo and evolution: <https://www.ipi.org.in/texts/neeltje/nh-evolvingsoul-sp.php>

³⁷ In an unpublished paper, "No Physics of Consciousness", I present an argument about the practical inability of Physics to predict emergence in sufficiently complex systems. This does not imply that Physics may not offer some descriptive value for understanding consciousness, rather it seeks to defeat the hegemonic point of view of the discipline that has famously thrived upon its success in various astounding predictions of great accuracy.