

HUMAN NATURE AFTER FOUR-SPHERE THEORY AND QUANTITATIVE HUMAN NATURE

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I am interested in assessing Human Nature, our destiny, and meaning in our life after my successful Four-Sphere Theory from 2018. This is a slow process, and this note will not address it completely. I am not the most organised man in the world, so my dear reader ought to be patient. My work on Quantitative Human Nature is dedicated as a labour of love to my Beloved People the Human Race. It is not supported by any university at all thus far, and is supported by the Social Services Department which gives me some disability income. I have asked Harvard, Yale, Princeton, Berkeley, and Stanford for a couple of Ph.D.s and a full professorship but they have not yet responded yet.

Today is June 11 2021, and it is 162 years after Charles Darwin wrote *The Origin Of Species by Natural Selection*. There are numerous books written about Darwin, and I will not worry about being a good scholar keeping track of all of it carefully. I am reading some good works, such as John Dupre's *Human Nature and the Limits of Science* and Janet Radcliffe Richards' *Human Nature After Darwin*. I thank the authors of these texts for their brilliant works. I am a scientific genius of immortal stature not just for Four-Sphere Theory which is a vast revision of macroscopic physics overthrowing Erwin Schroedinger, Georg Lemaitre, and Albert Einstein's entrenched theories but seeing structure of coherent macroscopic physics that is correct for the first time in human history; this was done in 2018. I am also the first to vindicate Aristotle's Virtue Theory on measured data showing the relationship between Moral Virtue and Life Satisfaction which had been unclear for more than two millenia.

1. A NEW SPIRITUAL CONTEXT

I won't go too much into my biographical history. My demographic information is this that I was born in a long Aristocratic bloodline in Bengal in 1973 during the Vietnam War that was at the end of its wealth in a sense with kings and queens far distant in the Vedic India closer to 1500 BC than later; I immigrated at 13 to New York and am American in my cultural assimilation and my life. I had gone into industry rather than Academia from graduation from Princeton in 1995, first to Lehman Brothers as a Finance quant, then into Technology and Biotechnology. And for the past decade I had devoted, without any substantial income on matters including Four-Sphere Theory and Human Sciences in Allen Texas without any income staying with my aunt.

Now what matters for the Human Race is that the universe we live in is not the way that Nova presents but quite different. The Universe is an eternal Four-Sphere where all events recur periodically, and it has existed not for 14 billion years

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but for infinite time in the past. Eternal Recurrence is a feature of the Universe. It is also not the way we ordinarily perceive it. It does not have three macroscopic spatial dimensions but *four*. The experienced three spatial dimensions is emergent. All movement and change in the universe is actually change of a three-dimensional hypersurface of a static eternal Four-Sphere with constant radius. The radius $R = 3075.69$ Mpc is related tightly to the Planck constant and the Cosmological Constant simultaneously. This is indeed the best science of the moment. These things were discovered by myself by enormous struggle and I am quite certain this provides far superior science than Quantum Mechanics of Schroedinger, Relativity of Einstein, and Expansionary Cosmology of Lemaitre.

The fundamental law governing Nature is a wave equation that is an analogue of Maxwell's law but is not Maxwell's law. I call it the S4 Electromagnetic Law. This is a wave equation on Spinor Fields of a Four-Sphere. My physics theory is for things larger than $10^{-13}cm$ as I have no interest in nuclear physics. I will ignore nuclear physics issues in this note because I do not think nuclear physics gives us clarification of how the world is, how we are, and what relationship we have to Nature and Existence.

Our typical adult height is roughly 2 meters. Compared to the radius of the universe we are

$$\iota = 2.1 \times 10^{-26}$$

of the whole of existence. We are neither insignificant compared to the size of all that exists nor are we significant but differ from it in 26 orders of magnitude. I am offering thus a new view of our place in the universe that is precise and not only creative. Our awe for all of existence ought not either exceed 26 orders of magnitude nor be disrespectful of 26 orders of magnitude. That is our scale in the habitat of things that live and exist in the Universe. To put things in context we also have

$$\iota_{Earth} = 6.71 \times 10^{-20}$$

and

$$\iota_{Sun} = 7.33 \times 10^{-18}$$

In other words while we are 26 orders of magnitude smaller than all of existence, this Earth that we live upon is 20 orders of magnitude smaller, and the Sun that nourishes us every day is 18 orders of magnitude smaller than all of Existence.

The S4 Electromagnetic law is responsible for all of life in the Universe and by and large the nuclear forces play no role in them. This entire Universe is governed by this Electromagnetic law, and to distinguish this from Maxwell's Electromagnetic law I call it S4 Electromagnetic law. This is what governs all that lives and all that moves. There is no force of gravity based on mass in our universe; this was a hypothetical force of past ages that I removed altogether. There is no such mass-based force in Nature at all. The macroscopic Force that governs all of Nature is this S4 Electromagnetic force, and particles are made from a Natural Spinor bundle that is part of the fabric of the universe.

Four-Sphere Theory is a classical field theory. Quantisation of energy in the actual universe is geometrically enforced, and particles are formed from sections of the Spinor bundle. I have described the mathematical physics elsewhere. For here we can simplify and consider all 'stuff' of nature to be composed of electrically charged point particles, which are spinor fields whose localisation is secured by the fundamental wave equation law, i.e. S4 Electromagnetic law.

Our universe is irreducibly of four macroscopic spatial dimensions, all four dimensions being purely electromagnetic. Our *experience* of three dimensions is special. I will not go very much into what exists in the complement of the three dimensional world we think we live in within the ambient four-sphere; that goes outside the bounds of my certain knowledge and future science will surely tell us more.

Life, then, in Existence is an S4 Electromagnetic phenomena. We are used to thinking of biology on Earth as forms of physical life based on carbon-based organisms, but it is valuable to place this in context of existence too.

Now three-dimensional chemistry is in a sense a mirage as well; this is phenomenological theory of actual features of Nature through the lens of pragmatic scientific theories in the past few years. And that is the state of chemistry and life sciences today, to use this inadequate theory to describe observed biochemistry of carbon-based organisms. And this works to some extent but for example, protein-folding is clearly not going to be clearly resolved without further symmetries of S4 Electromagnetism in four spatial dimensions, so there is a component of life that is four-dimensional even at the atomic level that is still inadequately examined today. We won't be ambitious about this in this note. Instead we will try to make sense of human nature and meaning of human life in this clearer scientific context of Four-Sphere Theory.

2. MEANING IN ETERNAL RECURRENCE

Eternal Recurrence is a mathematical consequence of Four-Sphere Theory. In other words, it is literally true in the actual universe in which we live. Contrary to all past theories of human nature and meaning, the new understanding that results from Four-Sphere Theory demands that we attempt to produce meaning in the context of Eternal Recurrence.

Let us first attempt to describe what this means. Time and space are not in fact mixed in the way that Albert Einstein thought they were. Special Theory of Relativity is not true. Space is not just independent of time in the actual universe; space has four macroscopic spatial dimensions, one of which is not easy for us to experience directly. The universe is closed and bounded and not open and infinite. This, in mathematically precise language, is called 'compactness'. It is the finite volume of the universe that is key to proving eternal recurrence of all things in the universe. The period length, however is quite vast, exceeding $T_0 = 10^{21}$ years. We claim that in the last recurrence before this one, the entire solar system had formed. The solar system has formed infinitely many times in the past of the universe, and is guaranteed to form an infinitely many times again in the future with vast slow periodicity.

You, who are alive at the moment, who have lived your life from your birth, some N years, have lived the exact same life an infinite number of times in the past of the universe; you shall live this same life an infinite time in the future.

Time is linear, but space is compact, and this is why there is eternal recurrence. But the scale of times is vast. Indeed mathematical theory tells us a great deal more, that all events that will ever occur in the universe anywhere in all of existence is bounded and finite, and so the same movie script will keep repeating for infinite time. It is not that time is circular, but the universe is compact and so the effect is the same.

Now neither I nor anyone I have ever met has known their previous occurrences precisely. So on one hand your life is strongly bounded by Fate. Your entire life script is in a sense *known* to the universe at microsecond scale. At the same time, it is virtually impossible to determine the past lives and therefore this knowledge is a mystery of Nature too. The deterministic law governing the universe is in principle predictable, but we will have so little information about the complement of the physical hypersurface, the distribution of electromagnetic matter in the complement $U(t) = S^4(R) - M(t)$ that we will have difficulty predicting the future of our lives. The physical world alone is not enough data, even if we could measure them.

And this is the mystery of Fate in Nature. Eternal Recurrence is true, determinism is true, but there are difficulties in knowledge regardless.

3. KNOWLEDGE BEFORE BIRTH AND AFTER DEATH ARE DIFFICULT IF NOT IMPOSSIBLE AT CURRENT

We are not exactly physical beings in the way we think today; there are four-dimensional components to our existence, and therefore there are histories before birth and after death, but they are difficult. What is important to understand is that it is not true that only life between physical birth and physical death has reality, even in Science. That is the Science of a Primitive Age. I do not offer more here but perhaps in the future Human Race will find deeper certain knowledge. I mention this because we should not accept Scientific theories that glibly present as 'real' only that part of our lives that occur between conception and physical death. This part of life has special significance, but it is not, even Scientifically, the whole story.

4. TURNING TO EVOLUTION THEORY

Darwin's Evolution by Natural Selection is quite beautiful. It is quite profoundly clear that *evolution* by natural processes is true. It is far less clear to what extent the specific theories of *natural selection* are true. I have deep doubts that the specific theories of natural selection are absolutely true description of nature. What is certainly true is that the force governing all of this is S4 Electromagnetic law in a four-sphere geometry of Nature. Darwin's 1859 work was a great revolutionary work and we can give him credit for removing many mythological theories of our creation by a hyperintelligent deity and yet keep our options open about deeper understanding of the natural processes that led to who we are today and what destiny we shall experience in our lives.

I am not particularly interested in evolution of any other species than Homo Sapiens primarily.

So let me put the context as around 4 million years of the past. We evolved mostly in Africa and then non-Africans spread out around 75,000 years ago from a meta-tribe of Africa. We are a Single Race in the strong sense in the 1 million years scale, and we are different in continental groups in the much shorter 75,000 year scale.

5. OUR MORAL NATURE

My recent work has shown that for most morals of the classical sort, ethnicity effects are 6.5% to 9.5% of the variation of morals. In other words, we share

the same distribution of moral values across the globe regardless of ethnicity, culture, language, nation and so on. For most major morals, we are around 95% good regardless of ethnicity. I have also established empirically that in fact virtues on classical morals increase our life satisfaction. I used data from University of Michigan World Values Survey for my conclusions. Here I am reading the beautiful book of Christopher Boehm *Moral Origins: The Evolution of Virtue, Altruism, and Shame*. His book is an evolutionary account, and does not include my discoveries about the universal regularity in our moral value distributions across the world.

We are an Angelic Race, we are strongly attuned to goodness, and we have increased life satisfaction when we are not morally ambivalent and have strong moral values towards good. These things are part of our Human Nature. These have been quite confusing for many thinkers of the past – Thomas Hobbes and Jean-Jacques Rousseau, Immanuel Kant and David Hume, despite their brilliant ideas did not know these things about our Human Nature. These are my discoveries.

6. ISSUES OF FATE THAT ARE COMPLETELY NOT REGARDED TODAY

”Meta” is not subjective but covered by S4 Electromagnetism, thus Bill Gates use of huge amounts of forbidden black magic powers from 13th century to my meta in the past year are part of Fate, events in the universe that affected my life. These are the sorts of things that are important in the universe in our Fate that current Primitive Science cannot even address without Four-Sphere Theory. Fate is a total effect of things that have S4 EM effect on our lives and includes ’meta’. Now ’meta’ is a very small part of the Four-Sphere Universe, so I do not want to over-emphasise the importance of events of this type.

On the flip side, Henry P. McKean, who I admire for his brilliant mathematics, who had never met me, took upon himself the responsibility even at his advanced age to pay attention to what I have been doing while I have been in Allen Texas without any serious income working on things that are not accepted yet by this Age. And this too is part of Fate. So Fate is an impossibly broad feature of existence in the Universe.

7. KEY POINTS OF THE SKETCH OF EXISTENCE THUS FAR COVERED

Eternity, Fate, and Eternal Recurrence as well as a Single Human Race and Single Law governing all of Nature are features of the actual universe and not speculations. This provides a classical paradigm of science that is solid and based on measurements and inference at fine tuned manner. They also begin to rebuild our confidence in a larger reality that religions had provided that has eroded since the First World War. While there may not be a Benevolent Deity that enforces good, here we discover, to our surprise, clear measurements that show that we are Good in a strong sense independent of religion, and *by our very nature* and not because of the intervention of any deity. These features ought to correct for the fragmentation of parts of our understanding of Existence that has been confused for the entirety of twentieth century. We also see the Ethnicity-independence of Man’s Moral Nature, which is a pleasant surprise but is solid in measurement and irrefutable.

8. THE GREAT DELUSION OF BOTTOM-UP ARTIFICIAL LIFE

First of all not a single actual living system has ever been artificially created from its alleged chemical components of DNA, proteins, etc. There is optimism in synthetic biology and there is an interesting Science article from 2011 that explores the optimism. But in actuality, no synthetic living system has ever been produced in history.

There is a good reason for this. No such system will be ever produced at all until there is a deeper understanding of four-dimensional geometry of living organisms. The idea that life will be reducible to organic matter is a speculative theory that has never been challenged or proven. It just remains a speculative element in sciences as a matter of *desire* of scientific theorists. I am quite confident this is not true in actual Nature and not a single artificial life will ever be produced before there is a deeper exploration of Four-Sphere Theory and four-dimensional geometry of living organisms, even simple ones. Life is governed by S4 Electromagnetism, but besides a reference to evolution, there is nothing but vast mystery and lack of clear knowledge. I am strongly against the idea that life can be reduced to chemistry of inanimate matter. Frankly, the idea is totally idiotic. Life cannot be constructed from inanimate matter, which includes DNA, protein molecules and other biochemical compounds that can be synthetically sequenced. What actually happens is that synthetic biochemical molecules are put into living systems, but the *assumption* is made that there is nothing more than chemistry that is known in life. This is to me laughably absurd. There is a deep mystery of Nature here, which will not be resolved at all if only the speculation and optimism about this possibility exists but no actual experience in the lab. I will bet all my money no such experience will be forthcoming in a million years.

The current artificial life work [1] uses global transposon mutagenesis, which uses deformations of living mycoplasmas to produce artificial living simple cellular organisms. Now I love this work, and it is important work. The point that I make however is that mycoplasma are living already, and they are being mutated, which leaves a fundamental question of immense scientific interest unanswered, which is what is going on with the living mycoplasma themselves in four dimensions, because that's the point of my great concern, not that you can take a living cell and with careful operations produce artificial living cells that have a smaller DNA than mycoplasmas.

Proposal for a non-cheating challenge. Take a living mycoplasma, deformed or otherwise. Then take all the proteins while it is living and pull them out and dump all of them in a nonliving mixture of some type. Then splice the genome of 480 genes and put the nucleus into the mix. The challenge is to make something live out of inanimate situation, and for my purposes proteins and DNA are inanimate biochemicals. Do not cheat, meaning do not use a living mycoplasma at all. I will bet against all these sorts of procedures producing a living organism.

REFERENCES

- [1] C. A. Hutchison III et al., Global transposon mutagenesis and a minimal Mycoplasma genome. *Science* 286, 2165–2169 (1999).