

WHICH DIRECTION DOES FOUR-SPHERE THEORY DEVELOP NEXT?

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Unfortunately, as you all know, the malevolent evil racial murderer Bill Gates is obsessed with killing me with illicit powers at the moment and I have not received funding and tenure from Stanford University at all. Neither has United States Government responded to eliminate Bill Gates who threatens not only myself but all non-white people of the world.

It is February 2 2022, and I now face a great task to understand the direction that four-sphere theory ought to take. It only became apparent to me that *Analysis and its history* has to be the next step some years ago, and I began to revive the mathematical skills in real variable theory that were dormant from my Princeton years 1991-1995. After some Stanford Mathematics Ph.D. Qual exams – I am currently in the middle of Fall 2014 Quals, where I am having difficulties with Problem I.5 and II.4, both related to locally convex topologies on spaces of distributions. And Distribution theory I did not study at Princeton with much effort.

Recently I had been studying natural philosophy of Science in the eighteenth and nineteenth centuries. I want to put the next steps in four-sphere theory to *re-weaving the history of Mathematics and history of Science* for coherent re-merging.

You see, human beings are, as Salman Rushdie, the great genius of literature, says, are story-telling beings. Stories help us find enlightenment, to know where to go.

Four-Sphere Theory is the eternal truth even as is, and it has proven itself on measurements. In due time all of Science in scales above $\delta = 10^{-15}$ cm roughly will be a matter of precision deduction of a Mathematical Physics that has some ability to represent Nature *exactly*. This will heal a rift between Mathematics and Physical Sciences that had grown from 1900. For this effort it is better that I have a better understanding of Distribution Theory as well as Measure Theory, and it was Robert Strichartz whose book on Distribution Theory allowed me to gain the simple and clear insight that Distribution Theory is the completion of differential calculus as measure theory was of integral calculus. That is the story of Mathematics. Four-Sphere Theory, as the Final Physics for all of Macroscopic world ought to be planned with some wisdom, and take advantage of the understanding gained from Distribution and Measure theories.

The important issue to emphasize here is that the merging cannot be superficial, a matter of fashion and fad, but serious and based on a serious effort to examine deeper philosophical issues of philosophy of nature.

When these difficult and serious questions arise, it is best to gain perspective of history. These are large issues that are not resolved by technical problems. They deserve understanding that human beings, collectively make progress slowly, and after many mistakes, and require enormous periods of time to see things clearly.

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I want to remind my readers that the central objects of four-sphere theory are smooth spinor fields on a four-sphere, and I have used inconsistent notation. $\Gamma(\Sigma S^4)$ would be reasonable notation. The fundamental law in four-sphere theory is the Ahmed-d'Alembert Law which is a partial differential equation on smooth spinor fields, a wave equation. I won't go into nitty gritty of source terms. I have repeatedly emphasized that it is not Maxwell's Law even though it is inspired by it. The Scientific Theory has sufficient differences from Maxwell's theory that it is Ahmed-d'Alembert Law and not Maxwell Law.

Once this is clear, a wiser man than myself would have been studying partial differential equations for the years after 2018. But I like to have a larger perspective and I worked on Positive Psychology and other things.

The time approaches when I have to invest more effort in understanding something about Distribution Theory as I find my weaknesses here. Perhaps the symbol that is appropriate is

$$(1) \quad \mathcal{D}'(\Sigma S^4)$$

This looks beautiful. Objects of all of macroscopic physics, distributions of smooth spinor fields on a four-sphere. I love this. Let's make it so.

I strongly promote the symbol in (1) because it is natural tradition, as \mathcal{D}' is from Laurent Schwartz and there is no need to temper distributions on a closed manifold, and ΣS^4 is the spinor bundle symbol used by Michael Atiyah, Raoul Bott and Arnold Shapiro in their work on Clifford modules. The symbol immediately tells us what the objects are. These will replace all *quantum fields* with objects that can have a rigorous mathematically precise theory. This will mark the transition of Physics from Anarchy between 1900-2020 and return to beautiful order in Nature.

I am removing these theories of deformable time and space, of relativity and expansion with a solid and firm geometry,

$$S^4(R) \times \mathbf{R}$$

For scales above $\delta = 10^{-15}$ cm, Nature will follow four-sphere theory with precision in measurements that will be strictly superior to quantum field theory, relativity and expansionary cosmology. Simultaneously mathematical rigour and coherence will once again be part of Scientific discipline. These are some of my contributions to my beloved people the human race.

The details of how *all the physical phenomena* studied in macroscopic science including chemistry and biology and psychology is derived from four-sphere theory will be worked out in due time. What is important in fundamental physics is to understand that four-sphere theory is different from scientific theories of the past in its claims; I am claiming *exact mathematical representability of Nature* rather than mathematics as a formal tool to aid physical theory. Four-sphere theory is not just another fundamental physics theory; it is absolute truth to me, and it is coherent and rigid and will have flawless match to macroscopic phenomena for the next million years without failure. All other physics theories will find that they are not able to compete. This is not accidental, because the divergence of empirical sciences and mathematics was due to not having the *exactly correct* mathematical physics. Four-sphere theory resolves this problem.

You see, I scoured through history of physics trying to understand how there can be incoherent theories about nature that have good fit to measurements for a decade, when it was a tantalising issue for me. Success was costly for me in health,

finances, social and personal sacrifices as I was doing it without university or government support. I am 100% sure of four-sphere theory being impossible to improve upon on geometry and major features. The guidance came from mathematics and history of science.

There is likely to be one last iteration of many macroscopic physics phenomena where four-sphere theory predictions have to be checked against experimental measurements. But the vast frontier opened with the theory are *indirect objective observations of phenomena in $S^4(R) - M(t)$, the part of objective universe that is not directly observable with ordinary senses. This will provide the challenges for the future of macroscopic physics. I will not speculate on what will happen in the future but there is strong evidence for it from a number of phenomena including anomalous rotational symmetries of so-called 'quasicrystals'. These are just four-dimensional crystals. They are not three dimensional objects at all.*

1. DISTRIBUTIONS ON FOUR-SPHERE ALL HAVE SPHERICAL HARMONICS EXPANSIONS

I was just reading very nice notes on distribution theory on the circle by Paul Garrett [1]. I am rather lazy and intuitive but I have been paying attention to the Stanford Mathematics Ph.D. Qual issues related to distributions on a circle because my claim is that $\mathcal{D}'(\Sigma S^4)$ are all the objects of physical interest in all of existence.

Suddenly I am quite pleased. I am quite pleased indeed because Paul Garrett teaches me something I was wondering about, which is whether all objects of $\mathcal{D}'(\Sigma S^4)$ will have spherical harmonics expansions. I claim that on some of these analytic matters, many theorems for $\mathcal{D}'(S^1)$ will translate without difficulty.

Two features that I expect to be true without any more effort are (a) every distribution in $\mathcal{D}'(\Sigma S^4)$ have a spherical harmonic expansion and (b) every distribution in $\mathcal{D}'(\Sigma S^4)$ is an arbitrary derivative of a continuous spinor field.

The major tool to see the transition is the beautiful trivialisation of ΣS^4 by Killing Spinor fields, and then roughly minor modification for (a) and (b) for distributions on the circle.

I absolutely love what mathematicians have done on study of analysis of distributions on the circle now. I can just take all of their theorems, and have enormous mathematical information about $\mathcal{D}'(\Sigma S^4)$ and claim all of this as pioneering work on Man's understanding of Nature. Good work Mathematicians. Your work will be used to bolster my immortal genius. So nice, so nice to be immortal for ages of human race.

2. GUSTAV FERDINAND MEHLER IS PARTIALLY RESPONSIBLE FOR MY IMMORTALITY

Gustav Ferdinand Mehler was a mathematical genius who worked on spherical harmonics expansions in 1866. But he died in 1895, and while his death like all other genius we lose are mourned, I am quite happy that he died because if he had been good friends with Max Planck my immortality would be in jeopardy because they would have done four-sphere theory soon after 1900 and where would Zulf's great immortality be then?

You see quantisation of energy and particle localisation are very simple in four-sphere geometry because of existence of point-localised spherical harmonics. Nature's fundamental geometry is compact, absolute space is four-sphere. It's obvious

once you see it. But for millenia people actually swore that \mathbf{R}^3 is physical. No one asked themselves whether this is a serious proposition but accepted physicality of \mathbf{R}^3 on faith. "How far out have you seen this \mathbf{R}^3 ?" "What do you mean? It's empty space." "I mean you have not even gone over to the next galaxy to see the ends of the universe. Why do you have such arrogant conviction that there is any \mathbf{R}^3 in Nature?" See, prejudices of people who swear by empirical knowledge. They don't even venture out to the beautiful ocean from their labs in all sorts of underground facilities but they have a difficult time accepting that absolute space is obviously four-sphere.

3. BILL GATES YOU ILLITERATE SCRUB YOU CAN'T BE BIG IN SCIENCE WITHOUT HAVING DONE ANYTHING IN SCIENCE

This Bill Gates is outrageously stupid and a total hick illiterate scrub. He pretends that he will have clout in Science by not having done any Science, not graduating from college, having all manner of self-promotion that is total charlatan matter, claiming that Stanford Mathematics Ph.D. Quals problems are 'trivia' without being about to do any of them.

It is elementary part of human social nature that we do not give authority in any social organisation for those who have not actually contributed to it. I am a Princeton graduate. I was personal friends with Steven Gubser, with Eric Gawaiser, and many others who went to illustrious careers in Science. I did homework problems with them. Peter Kramer. I was friends with John Stalker, with Shinichi Mochizuki, with Peter Oszvath. Who the hell is Bill Gates? What has he done? He's a nobody without having actual serious work in Mathematics and Science.

4. WELL THERE ARE TWO MAJOR POSITIVE CONSEQUENCES FROM DANIEL STROOCK'S EXCOMMUNICATION OF ZULF

Daniel Stroock's mathematical genius is in analysis and its relation to probability. He had no idea that I was well-regarded at Princeton and had a very good thesis and good record. He excommunicated me from Mathematics and Finance because he did not like my analytical style in 1999-2000. Now I could have been extremely upset but I did not know about this at all. I was recovering from a separation and personal loss when I went to MIT. He was wrong in doing what he did.

However this is two decades later and in the long run, I am fortunate because isolated from the Mathematics community I was free to pursue much more ambitious projects than if I had been in it. Four-sphere theory might seem difficult to believe would be a serious competitor for quantum field theory and relativity and expansion but it is not only a competitor but infinitely better science too. This was all my own work on my own efforts without any university or institutional support, no funding.

Furthermore, I have exposed Bill Gates as not just a bad man, but one of the most dangerous racial murderers in history.

Both of these will be considered extremely valuable contributions to the world in the end, and exceeds most Nobel Prize winning works. Four-sphere theory is not worth a Nobel Prize but perhaps thirty Nobel Prizes if you understand the momentousness of the advance. It is the transition moment from Uncertainty regarding Nature (in macroscopic phenomena) to absolute clarity and exact knowledge. My four-sphere theory revolution is not just the successful completion of Hilbert's Sixth Problem (axiomatisation of physics) and the equivalent of successful completion of

Albert Einstein and Hermann Weyl's failed attempts at a unified field theory (which I accomplish by nixing gravity) but it is a profound replacement of all of Maxwell's theory as well and nixing of expansion and relativity.

No good career in Mathatics could have produced four-sphere theory. It required the vagaries of fate and adversity and all that.

5. STANFORD MATHEMATICS ACTUALLY KNOWS MY ABILITIES BETTER THAN DANIEL STROOCK DID IN 1999-2000

You see, I am doing Stanford Ph.D. Quals partly for an objective evaluation of my Mathematics abilities in Analysis. Daniel Stroock is a good mathematician but he is not exactly focused on evaluating abilities of other people. He is a good research mathematician. Stanford Ph.D. Quals committee can assess my analysis skills directly by just pooling together all the exams I do and what you see is what you get. I can do the problems that I do and can't do the ones I cannot do. There is nothing hidden and I am conscientious about telling you when I obtained assistance. So don't worry about Daniel Stroock's assessment about my skills. You can look at grades from Princeton classes I took as an undergraduate. At Columbia people don't know my caliber. I was busy with Lehman Quant work and other things in industry already. I didn't spend much time on doing mathematics. Well I did study Cheeger and Ebin's book Comparison Theorems In Riemannian Geometry. I regained interest in Mathematics only in 2008 again when I suddenly was interested in four-sphere theory which I originated myself.

6. BARRY SIMON'S NOTES ON HISTORY OF DISTRIBUTIONS

Once again, I am most grateful for Barry Simon's A Comprehensive Course in Analysis. In notes to section 6.2 he mentions that distributions had a fifty year history before Laurent Schwartz' formal definition and mentions work by Oliver Heaviside and Paul Dirac. I personally consider Sergei L. Sobolev's 1935 work to be the first serious use of distributions.

Regardless, enough about others and let us focus on what Zulf is proposing in this note. You see, to me, it's so nice that mathematicians like distributions. It's so quaint. But I am not interested in mathematical efficacy. I am trying instead to establish that distributions in $\mathcal{D}'(\Sigma S^4)$ are all the objects of my four-sphere fundamental physics theory. I am interested here in Science. My aim is to ensure that the entire human race, and all the children who are insane waiting for the summer rain and everyone else will simply accept that the fundamental objects of nature are elements of $\mathcal{D}'(\Sigma S^4)$ and that is the fundamental truth of existence in the universe and all that we see around us, all that we can ever know are all in $\mathcal{D}'(\Sigma S^4)$ and there is nothing else that has any objective existence at all. And the only law that governs these are my Ahmed-d'Alembert Law.

REFERENCES

- [1] https://www-users.cse.umn.edu/~garrett/m/real/notes_2017-18/12_Levi-Sobolev.pdf