Direction is not Destination

Clark M. Thomas

Abstract

Most physics theses point toward some sort of destination, or physics model, that will be tested by their experimental data. Stringy field models are more 2D maths than real physics, so they can best be described as untestable algebras that ignore much of 4D physics. Astrophysics today fails to fuse 2D field maths with sketchy ideas of virtual quantum particle fields. Science needs an elegant direction of inquiry embracing physically verifiable 4D destinations to the degree possible.

In this early 21st century it may seem that hybrid quantum field theory has consumed the standard model of particle physics. Hybrid quantum experiments typically demand very expensive technologies that can only make incremental discoveries, while never achieving their imagined destinations.

Flashy classical images from great telescopes are impressive, but they are not yet revolutionary, because of *linear dimensional limitations of their instruments.* In other words, modern field physics is still limited by 20th-century virtual-particle paradigms, and by experimental limitations with classical instruments that can *never* reach their currently imagined physics destinations.

Modern astrophysics is thus no closer to a theory of everything (TOE), or even to a grand unified theory (GUT), than it was a few decades ago. A viable theory of everything could be built today from a *different understanding of sub-Planck "quanta."* I have described sub-Planck linear dimensions having foundational yin/yang Coulombic spheres, including their dimensionally emergent beaded structures all the way up to the multiverse.**[1]**

In short, experimental science needs a very modern version of what metaphorically happened within Plato's cave allegory in his *Republic.* This emerging end product is *physics enlightenment.*

Recent astrophysical data apparently brings science slightly closer to what is going on within foundational "dark matter," which is amazingly *too bright from its very short wavelengths* to measure with today's instruments.**[2]** Other destination puzzles are also unresolved without making serious qualitative progress toward an elegant TOE. Continued confusion between antique astrophysics and modern experiments seems weirdly akin to how astronomy got stuck inside the *Ptolemaic math model* for some 1,400 years, until Galileo and his tiny telescopes revealed an awesome solar-centric cosmos by way of the phases of Venus.

Galileo's new science destination helped change theoretical directional compasses, yielding more accurate models. Now we know that Sol is not the central celestial destination — nor is our home galaxy; nor is our local universe. Only the 4D multiverse can embrace all (if defined correctly), with uncountable yin/yang electromagnetic (EM) matter/energy emergents. The smallest matter/energy yin/yang spherical units all dialectically make up the largest 4D multiverse models. There is no 2D holographic whole outside absurd math theory.

Modeling all directions among fundamental matter/energy Coulombic spheres, until we reach the ethereal outer limits of the multiversal total — and then looking back at it all in reverse, is the path to a TOE. Astrophysics is nowhere near that physics model, but it would help for physical science to at least point toward that direction.

A *Grand Unified Theory (GUT)* aims to causally unify the three fundamental forces of the Standard Model (electromagnetic, weak nuclear, and strong nuclear) into a single theoretical framework. It does *not* include elusive gravity. In contrast, a viable *Theory of Everything (TOE)* seeks to unify all fundamental forces of nature,

including gravity. A workable TOE would encompass a GUT as part of its 4D framework of space and vector time.

One fertile version of a geometric GUT has been supported by abstract mathematics, but not yet by 4D experiments, or even by comparative 4D astrophysics. This is the exquisitely complicated mathematics associated with the *Langlands conjecture*. Its real value may be in the new theory questions it raises, rather than the provisional mathematical conclusions it may suggest.**[3]**

Here is an interesting version of the "*less is more paradox*." Whatever emerges from these complex maths will eventually be defined in quasi-classical, 4D physics — with vector geometry involving the matter/energy unity of opposites within yin/yang actual physics, as envisioned by *renge*, the simultaneity of cause and effect.

Langlands model theories are doing OK with ideas of *seeming* correlation, which is already the sweet allure of antique General Relativity. In today's newer attempt at a GUT we see complexity starting to yield some possible success toward better matching directions with destinations. Merging particulate Standard Model vector ideas with particulate, push/shadow, yin/yang gravity, would better point toward a viable TOE, not just a mere GUT.

In 2023 I wrote an essay on how to improve your science.**[4]** The paragraph below from that essay concludes this essay's overall perspective:

> "One of the greatest weaknesses modern science faces is its technical inability to look at both smallest and largest linear dimensions, and the full range of electromagnetic frequencies. The problem here is that probabilities are only as good as our knowledge of the possibilities of the whole. If we cannot know the whole, then even good limited data is subject to rejection by the unknown unknown. It is our limited technical abilities, not our mental abilities, that cause such fundamental error. After all, our brains have an estimated 100 trillion synapses."

References

[1] https://astronomy-links.net/beyond.the.multiverse.pdf

[2] https://astronomy-links.net/bright.black.holes.pdf

[3] https://www.nature.com/articles/d41586-025-02197-3

[4] https://astronomy-links.net/science.tips.pdf