New York Science Journal

Websites:
http://www.sciencepub.net/newyork
http://www.sciencepub.net

Emails:
newyorksci@gmail.com
editor@sciencepub.net

MARSLAND PRESS
Multidisciplinary Academic Journal Publisher

# Examples and Counterexamples to Theory of Everything [ToE]

S. Kalimuthu

2/394, Kanjampatti P.O, Pollachi, Tamil Nadu 642003, India
owlskalimuthu@gmail.com Mobile +91 8220541577
Researcher ID: AAP-4476-2020
Scopus Author ID: 25723330600
ORCID ID: 0000-0001-7978-9013
MR ID 1048338

**Abstract:** In the nineteen eighties, the Scottish physicist JC Maxwell realized that electric and magnetic forces are similar. He unified electricity and magnetism. Einstein unsuccessfully tried for more than thirty years to unify gravity and electromagnetic forces. In the nineteen seventies Abdus Salam and Steven Weinberg unified electromagnetic and nuclear weak inter action force. Physicists believe that at very high temperatures, the strong nuclear force behave like electroweak force. Attempts are being made to unify electroweak force with gravity. In this micro article, the author outlines examples and counterexamples in the theory of everything. The author politely tells that this is only an elementary attempt. The road is too long to travel to reach the Ultimate Theory.
[S. Kalimuthu. **Examples and Counterexamples to Theory of Everything [ToE].** *N Y Sci J* 2020;13(11):10-12]. ISSN 1554-0200 (print); ISSN 2375-723X (online). http://www.sciencepub.net/newyork. 3. doi:10.7537/marsnys131120.03.

**Keywords:** Fundament al forces of Nature; Theory of Everything [ToE]

**Example Statement:** Theory of Everything [ToE ] is not possible

**Example 1**

"Much has been written about this topic. For your particular question I can recommend the book "Infinity and the Mind" by Rudy Rucker, which can tell you much about Gödel and his theorems (among an interesting variety of other things). Chapter 4 is devoted to your query, and RR's conclusion is (p. 173): "Reality is, on the deepest level, essentially infinite. No finitely programmed machine can ever exhaust the richness of the mental and physical world we inhabit".

So, finding a theory of everything would indeed be pretty much ruled out by Gödel, since we can never have a finite set of axioms and rules to grasp everything. Unless of course you believe the universe is finite in content and possibilities"Gert Van der Zwan, Vrije Universiteit Amsterdam [1]

**Example 2**

"Stephen Hawking believes that Gödel's Incompleteness Theorem makes the search for a 'Theory of Everything' impossible. He reasons that because there exist mathematical results that cannot be proven, there exist physical results that cannot be proven as well. Exactly how valid is his reasoning? How can he apply a mathematical theorem to an empirical science? "[2]

**Example 3**

"But then our experience with super gravity and string theory, and the analogy of Gödel's theorem, suggest that even this formulation will be incomplete "[3]

**Example 4**

"Some people will be very disappointed if there is not an ultimate theory that can be formulated as a finite number of principles. I used to belong to that camp, but I have changed my mind. I'm now glad that our search for understanding will never come to an end, and that we will always have the challenge of new discovery. Without it, we would stagnate. Gödel's theorem ensured there would always be a job. for physicists." [4]

**Example 5**

"An ultimate Universal theory a complete theory that accounts, via few and simplest principles, for all the phenomena already observed and that will ever be observed { has been, and still is, the aspiration of most physicists and scientists. Yet, a basic principle that is embodied in the results of Gödel's incompleteness

theorems is that self-referencing leads to logical conflict or failure, as in the liar paradox or Russell's paradox. In physical theories self referencing necessarily occurs when it is realized that the observer is also a participant in the experienced phenomena { we, humans, are part of the Universe while observing it. Therefore self-referencing, and consequently logical conflicts, are unavoidable, and any theory pretending to be Universal is bound to be incomplete"[5]

**Example 6**

"Any theory which includes Number theory will be undecidable; hence if a final Theory of Everything includes Number theory, then the final theory will also be undecidable. The use of Number theory is fairly pervasive in mathematical physics, hence, at first sight, this appears to be highly damaging to the prospects for a final Theory of Everything in physics." [6]

**Counterexample Statement:** Theory of Everything is not possible

**Counterexample 1**

It is well known that it has been proved that by using only ruler and compass, trisection of angle 60 degree is impossible. But in 2008, the author and his coworker Sivasubmanian found that it is possible to trisect $60^0$. [7]

**Counterexample 2**

The author's elementary tensor calculus proof is given by for the unification of Theory of Everything. [ToE]

Let e, g, s and w denote electromagnetic, gravitational, strong nuclear interaction, weak nuclear interaction forces respectively.

Applying the laws of tensor algebra, we can formulate the following tensors:

$A^{eg}$ (1)

$B_{ws}$ (2)

$C_{se}$ (3)

$D^{ws}$ (4)

$E_{eg}$ (5)

$F_{gw}$ (6)

(1). (2). (4). (5).= $A^{eg}B_{ws}D^{ws}E_{eg}$ = Unity

(1). (3). (4). (6).= $A^{eg}C_{se}D^{ws}F_{gw}$ = Unity

Equating the above two relations, (1). (2). (4). (5).= (1). (3). (4). (6).

i.e. $B_{ws}E_{eg} = C_{se}F_{gw}$

i.e Mwseg = Nsegw (7)

According to the law of equality of tensors, if two tensors of same rank and same type are equal, then their components are one to one equal, using this law in (9) we get the following relations:

w = s; s = e; e = g; g = w`

From the above relation we obtain, e = g = w=s. (8)

From (8) we obtain that the properties of denote electromagnetic, gravitational, strong nuclear interaction, weak nuclear interaction forces are similar.

**Please Note**

The author does not make any top claims. This finding is only elementary, neither higher nor advanced. The research community may not content with this result. But the author is confident that this is only a foundation for the theory of everything. After finding the spherical/elliptical geometry Riemann politely wrote thus***:" Hereafter, it is up to physicist to develop my result***." After more than 60 years, Einstein assumed the basics of Riemannian geometry to formulate general relativity theory. Also, in 1905, [ 81 years after the publication by Lobachevski] Einstein applied hyperbolic geometry to his special relativity theory. Similarly, I sincerely request the research community to refer to this micro article for further explorations in theory of everything.

**Discussion**

Einstein modified Newtonian mechanics and created special theory of relativity. He extended special relativity and formulated general relativity. Currently, general relativity is the well accepted and defined theory of gravity. When physicists apply general relativity to Quantum physics they encounter inconsistencies. So, general relativity needs more and more modifications and refinements. The attempts and investigations devoted to prove the fifth Euclidean postulate by applying the first four postulates paved the way for the origin of two non Euclidean geometries, namely hyperbolic and elliptical/spherical. Similarly, Gödel's incompleteness theorems need modifications. So, according to our two counterexamples the physical theory of everything IS POSSIBLE.

**References**


1 http://press.princeton.edu/titles/5656.html

2 https://math.stackexchange.com/questions/228806/does-g%C3%B6dels-incompleteness- theorem-really-say-anything-about-the-limitations-of……

3 http://www.hawking.org.uk/godel-and-the-end-of-physics.html

4 http://www.hawking.org.uk/Godel-and-the-end-of-physics.html. [Accessed 2.10.2017]

5 Uri Ben-Ya'acov 2019 *J. Phys.: Conf. Ser.* 1391 012067.

6 http://mccabism.blogspot.com/2009/06/theories-of-everything-and-godels.html

7 http://old.inspirehep.net/record/1795188

8 Google. http://www.google.com. 2020.
9 Journal of American Science. http://www.jofamericanscience.org. 2020.
10 Life Science Journal. http://www.lifesciencesite.com. 2020.
11 http://www.sciencepub.net/nature/0501/10-0247-mahongbao-eternal-ns.pdf.
12 Ma H. The Nature of Time and Space. Nature and science 2003;1(1):1-11. doi:10.7537/marsnsj010103.01. http://www.sciencepub.net/nature/0101/01-ma.pdf.
13 Marsland Press. http://www.sciencepub.net. 2020.
14 Marsland Press. http://www.sciencepub.org. 2020.
15 National Center for Biotechnology Information, U.S. National Library of Medicine. http://www.ncbi.nlm.nih.gov/pubmed. 2020.
16 Nature and Science. http://www.sciencepub.net/nature. 2020.
17 Wikipedia. The free encyclopedia. http://en.wikipedia.org. 2020.

11/5/2020