



Three possible applications of Neutrosophic Logic in Fundamental and Applied Sciences

Victor Christianto ¹, Robert N. Boyd ² and Florentin Smarandache ^{3,*}

¹ Satyabhakti Advanced School of Theology, Jakarta-Chapter, INDONESIA; victorchristianto@gmail.com

² Consulting Physicist at Princeton Biotechnology Corporation, Princeton, USA; rnboydphd@comcast.net

³ Dept. Math and Sciences, University of New Mexico, Gallup, NM, USA; smarand@unm.edu

* Correspondence: victorchristianto@gmail.com

Abstract

In Neutrosophic Logic, a basic assertion is that there are variations of about everything that we can measure; the variations surround three parameters called T,I,F (truth, indeterminacy, falsehood) which can take a range of values. This paper shortly reviews the links among aether and matter creation from the perspective of Neutrosophic Logic. Once we accept the existence of aether as physical medium, then we can start to ask on what causes matter ejection, as observed in various findings related to quasars etc. One particular cosmology model known as VMH (variable mass hypothesis) has been suggested by notable astrophysicists like Halton Arp and Narlikar, and the essence of VMH model is matter creation processes in various physical phenomena. Nonetheless, matter creation process in Nature remains a big mystery for physicists, biologists and other science researchers. To this problem Neutrosophic Logic offers a solution. We also discuss two other possible applications of Neutrosophic Logic. In short, Neutrosophic Logic may prove useful in offering resolution to long standing conflicts.

Keywords: Neutrosophic Logic, Physical Neutrosophy, aether, matter creation, integrative medicine

1.Introduction

Matter creation process in Nature remains a big mystery for physicists, biologists and other science researchers. To this problem Neutrosophic Logic offers a solution, along solutions to two other problems, namely the point particle assumption in Quantum Electrodynamics and also in resolving the old paradigm conflict between Western approach to medicine and Eastern approach.

In short, Neutrosophic Logic may prove useful in offering resolution to long standing conflicts. See also our previous papers on this matter. [29-30]

2. Matter creation processes

Physicists throughout many centuries have debated over the physical existence of aether medium. Since its inception by Isaac Newton and later on Anton Mesmer (Franz Anton Mesmer 1734 – 1815), many believed that it is needed because otherwise there is no way to explain interaction at a distance in a vacuum space. We need medium of interaction, of which has been called by various names, such as: quantum vacuum, zero point field, etc.

Nonetheless, modern physicists would answer: no, it is not needed, especially after Special Relativity theory. Some would even say that aether has been removed even since Maxwell's theory, but it is not true : James Clark Maxwell initially suggested a mechanical model of aether vortices in his theory [26-28]. Regardless of those debates, both approaches (with or without assuming aether) are actually resulting in the same empirical results [9].

The famous Michelson-Morley experiments were thought to give null result to aether hypothesis, and historically it was the basis of Einstein's STR. Nonetheless, newer discussions proved that the evidence was rather ambiguous, from MM data itself. Especially after Dayton Miller experiments of aether drift were reported, more and more data came to support aether hypothesis, although many physicists would prefer a new terms such as physical vacuum or superfluid vacuum. See [21]-[25].

Once we accept the existence of aether as physical medium, then we can start to ask on what causes matter ejection, as observed in various findings related to quasars etc. One particular cosmology model known as VMH (variable mass hypothesis) has been suggested by notable astrophysicists like Halton Arp and Narlikar, and the essence of VMH model is matter creation processes in various physical phenomena. Nonetheless, matter creation process in Nature remains a big mystery for physicists, biologists and other science researchers. To this problem Neutrosophic Logic offers a solution.

Although we can start with an assumption of aether medium is composed of particle-antiparticle pairs, which can be considered as a model based on Dirac's new aether by considering vacuum fluctuation (see Sinha, Sivaram, Sudharsan.) [5][6] Nonetheless, we would prefer to do a simpler assumption as follows:

Let us assume that under certain conditions that aether can transform using Bose condensation process to become "unmatter", a transition phase of material, which then it sublimates into matter (solid, gas, liquid). Unmatter can also be considered as "pre-physical matter."

Summarizing our idea, it is depicted in the following block diagram:¹

¹ The matter creation scheme as outlined here is different from Norman & Dunning-Davies's argument: "Energy may be derived at a quantum of 0.78 MeV to artificially create the resonant oscillatory condensations of a neutroid, then functioning as a Poynting vortex to induce a directionalized scalar wave of that quantum toward that vortical receptive surface." See R.L. Norman & J. Dunning-Davies, Energy and matter creation: The Poynting Vortex, 2019, vixra.org/1910.0241

Aether → bose condensation → “unmatter” (pre-physical matter) → sublimation → ordinary matter/particle

Diagram 1. How aether becomes ordinary matter

Actually the term “unmatter” can be viewed as a solution from perspective of Neutrosophic Logic. A bit of history of unmatter term may be useful here:

“The word ‘Unmatter’ was coined by one of us (F. Smarandache) and published in 2004 in three papers on the subject. Unmatter is formed by combinations of matter and antimatter that bound together, or by long-range mixture of matter and antimatter forming a weakly-coupled phase. The idea of unparticle was first considered by F. Smarandache in 2004, 2005 and 2006, when he uploaded a paper on CERN web site and he published three papers about what he called ‘unmatter’, which is a new form of matter formed by matter and antimatter that bind together. Unmatter was introduced in the context of ‘neutrosophy’ (Smarandache, 1995) and ‘paradoxism’ (Smarandache, 1980), which are based on combinations of opposite entities ‘A’ and ‘antiA’ together with their neutralities ‘neutA’ that are in between.”² See also Smarandache [13].

Nonetheless, in this paper, unmatter is considered as a transition state (pre-physical) from aether to become ordinary matter/particle, see also [14].

Moreover, superfluid model of dark matter has been discussed by some authors [7].

As one more example/case of our proposed scheme of transition from aether to matter, see a recent paper [18]. See the illustrations at pages 5 and 6 of [18] regarding the physically observed properties of the Galactic Center (GC), which are obviously completely different from the imaginary "black hole" model.

The mapping of the magnetic field structures of the Core is a profile of a torus, as we have previously suggested. Page 5 also illustrates the relation between Sag A and Sag B and the space in between them.

These illustrations are also relevant to *matter creation* at the galactic scale. Also note the gamma ray distributions in [18], which are relevant to matter destruction processes. Electrical discharges such as lightning, stars, and galaxies, all produce gamma rays. Gamma ray resonance dissociates atomic matter back into the aether at the rate of 6,800,000,000 **horsepower** of energy liberated per gram of matter dissociated per second. And where does all that energy go? Back into creating new matter. It's a never-ending cycle, and infinitely Universe-wide.

3. Towards QED without renormalization

² <http://fs.unm.edu/unmatter.htm>

One problem in theoretical physics is how to do away with infinity and divergence in QED without renormalization. As we know, renormalization group theory was hailed as cure in order to solve infinity problem in QED theory.

For instance, a quote from Richard Feynman goes as follows:

“What the three Nobel Prize winners did, in the words of Feynman, was “to get rid of the infinities in the calculations. The infinities are still there, but now they can be skirted around . . . We have designed a method for sweeping them under the rug.”[19]

And Paul Dirac himself also wrote with similar tune:

“Hence most physicists are very satisfied with the situation. They say: “Quantum electrodynamics is a good theory, and we do not have to worry about it any more.” I must say that I am very dissatisfied with the situation, because this so-called “good theory” does involve neglecting infinities which appear in its equations, neglecting them in an arbitrary way. This is just not sensible mathematics. Sensible mathematics involves neglecting a quantity when it turns out to be small—not neglecting it just because it is infinitely great and you do not want it!”[20]

Here we submit a viewpoint that the problem begins with assumption of point particle in classical and quantum electrodynamics. Therefore, a solution shall be sought in developing fluidic Electrodynamics [10], i.e. by using fluid particle, or perhaps we can call it “*fluidicle*.” It is hoped that a fluidicle can remove the infinity problem caused by divergence. And fluidicle can be viewed as a solution from perspective of Neutrosophic Logic.

4. Another application: Resolution to conflicting paradigms in medicine

It is well known by most medicine practitioners, that Western approach to medicine is based on “*curing*” or “*attacking*” a disease, one by one. This is called germ theory: one cure for one disease (Pasteur). On the opposite side, Eastern medicine is based in particular on ancient wisdom of returning the balance of the body, in other words: to *harmonize* our body and our live with nature. Although those two approaches in medicine and healthcare have caused so many conflicts and misunderstandings, actually it is possible to do a dialogue between them.

From Neutrosophic Logic perspective, a resolution to the above conflicting paradigms can be found in developing novel approaches which appreciate both traditions in medicine, or we may call such an approach: “*curemony*,” i.e. by at the same time curing a disease and restoring balance and returning harmony in one’s *body-mind-spirit as a whole*.

Although we don’t mention here specific case example, in general speaking we can mention:

- a. in HGH therapy, it is known that nutrition can affect the well-being of body [12],
- b. in the same way *Epigenetics* admits the role of external factors into the genes.
- c. We can also mention that psoriasis –a skin problem- can be related to stress and other emotions, which suggests a plausible new term: *psychodermatology*. [11]

All of these examples seem to suggest relational aspect within human being, among *mind-body-spirit*, just like what Eastern medicine emphasizes all along. In some literature, such a dialogue between Western and Eastern medicine approaches can be considered as *integrative medicine*, but actually it goes far deeper that just “*integrative*”, it is more like rethinking the “*isolate and solve*” attitude of Western scientists, toward more “*relational biology*.” And the

concept of systems biology or relational biology have become new terms in recent years. See also recent literatures in this subject [15][16][17].

Hopefully many more approaches can be developed in the direction as mentioned above.

5. Conclusions

In this paper, we discussed three possible applications of Neutrosophic Logic in the field of matter creation processes etc. For instance, a redefinition of term “unmatter” is proposed here, where under certain conditions, aether can transform using Bose condensation process to become “*unmatter*”, a transition phase of material, which then it sublimates into matter (solid, gas, liquid). Unmatter can also be considered as “pre-physical matter.” Moreover, a transition phase between fluid and particle (or fluidicle) is considered necessary in order to solve the “point particle” assumption which cause the divergence problem in QED. And for the third application of NL, we consider a dialogue is possible between Eastern and Western approaches to medicine.

Further researches are recommended in the above directions.

Acknowledgment

The authors wish to thank to many scholars, especially to four anonymous reviewers for suggesting improvement to this manuscript.

Funding: “This research received no external funding”

Conflicts of Interest: “The authors declare no conflict of interest.”

References

- [1] Montgomery Childs and Michael Clarage. <https://www.safireproject.com/>
- [2] V. Christianto, F. Smarandache, R.N. Boyd. Electron Model Based Helmholtz’s Electron Vortex & Kolmogorov’s Theory of Turbulence. *Prespacetime J.* Vol. 10 no. 1 (2019) url: <https://prespacetime.com/index.php/pst/article/view/1516>
- [3] V. Christianto & F. Smarandache. One-note-Samba approach to cosmology. *Prespacetime J.*, Vol. 10, no. 6 (2019). <https://prespacetime.com/index.php/pst/article/view/1586/1532>
- [4] <https://www.cosmic-core.org/free/article-99-the-aether-part-2-aether-advocates-experiments/>
- [5] Sinha, Sivaram, Sudharsan. Aether as a superfluid state of particle-antiparticle pairs. *Foundations of Physics*, Vol. 6, No. 1 (1976)
- [6] Sinha. Bose condensation of particle-antiparticle systems. *Pramana – J. Phys.* Vol. 25 (1985).
- [7] Lasha Berezhiani and Justin Houry. Dark Matter Superfluidity and Galactic Dynamics. arXiv:1506.07877 (2015)
- [8] Martin J. Cooper. Vortex Motions in Ideal Bose Superfluid. *JOURNAL OF RESEARCH of the National Bureau of Standards - A. Physics and Chemistry* Val. 73A, No.3, May-June 1969.
- [9] Pablo Acuña L. On the Empirical Equivalence between Special Relativity and Lorentz’s Ether Theory.
- [10] A.A. Martin & M. Pinheiro. Fluidic electrodynamics. *Physics of Fluids* vol. 21 (2009)
- [11] Don Colbert. *Deadly Emotions*. Nashville: Thomas Nelson Inc., 2003.
- [12] Bamgbola & Kaskel. GROWTH HORMONE THERAPY IN CHRONIC KIDNEY DISEASE. *Growth, Genetics, Hormones* Vol. 21 no. 1 (2005)

- [13] F. Smarandache. *A Unifying Field in Logics: Neutrosophic Logic. Neutrosophy, Neutrosophic Set, Neutrosophic Probability (sixth edition)*. url: <http://fs.unm.edu/eBook-Neutrosophics6.pdf>
- [14] G. Le Bon. *Evolution of matter*. The Walter Scott Publishing Co., Ltd. (London) Ch. Scribner's Sons (New York), 1909. Url: <http://rexresearch.com/lebonmat/lebonmat.htm>
- [15] J. Wedel. Bridging the Gap between Western and Indigenous Medicine in Eastern Nicaragua. *ANTHROPOLOGICAL NOTEBOOKS* 15 (1).
- [16] Christina L. Ross. Integral Healthcare: The Benefits and Challenges of Integrating Complementary and Alternative Medicine with a Conventional Healthcare Practice. *Integrative Medicine Insights* 2009:4 13–20
- [17] Tsuei JJ: Eastern and Western approaches to medicine. *West J Med* 128:551-557, Jun 1979.
- [18] Mehmet Guenduez et al. A Novel Analytical Model of the Magnetic Field Configuration in the Galactic Center Explaining the Diffuse Gamma-Ray Emission. PLoS. arXiv:1909.08379v1 [astro-ph.GA] 18 Sep 2019 .
- [19] “Dr. Richard Feynman Nobel Laureate.” *California Tech*, October 22, 1965. http://caltechcampuspubs.library.caltech.edu/662/1/1965_10_22_67_5_05.pdf
- [20] P. A. M. Dirac, *Directions in Physics* (1978), 2. Quantum Electrodynamics.
- [21] Swenson, Loyd S. (1970). "The Michelson–Morley–Miller Experiments before and after 1905," *Journal for the History of Astronomy*. 1 (2): 56–78
- [22] Swenson, Loyd S. *The Ethereal ether: A History of the Michelson-Morley-Miller Aether-drift Experiments, 1880-1930*. The University of Texas – Austin, 2013.
url: https://books.google.co.id/books/about/The_Ethereal_Aether.html?id=kQTUAAAAQBAJ&redir_esc=y
- [23] Dayton Miller. The Ether-Drift Experiment and the Determination of the Absolute Motion of the Earth", *Reviews of Modern Physics*, Vol.5(2), p.203-242, July 1933. See also [23a] Dayton Miller, untitled lecture in "Conference on the Michelson-Morley Experiment", *Astrophysical Journal*, LXVIII:341-402, Dec. 1928; also in *Contributions From the Mount Wilson Observatory*, No.373, Carnegie Institution of Washington
- [24] James DeMeo. Dayton J. Miller revisited. In *Should the Laws of Gravitation be Reconsidered?* Hector Monera, Editor, Allieiron, Montreal 2011, 11.285-315. url: <http://www.orgonelab.org/demeopubsPDFs/2011Miller.pdf>
- [25] M. Consoli & A. Pluchino. *Michelson-Morley Experiments: An Enigma for Physics and the History of Science*. World Scientific, 2018. url: <https://www.worldscientific.com/worldscibooks/10.1142/11209>
- [26] James Clark Maxwell. On Physical Line of Forces. [26a] Maxwell, J. C., *A Treatise on Electricity and Magnetism*, 3rd edition, Dover, New York, 1954; The Dover edition is an unabridged, slightly altered, republication of the third edition, published by the Clarendon Press in 1891.
- [27] Freeman J. Dyson. Why is it so hard to understand Maxwell equations?
url: <http://www.damtp.cam.ac.uk/user/tong/em/dyson.pdf>
- [28] Arthur D. Yaghjian. Reflections on Maxwell's Treatise. *Progress In Electromagnetics Research*, Vol. 149, 217–249, 2014
- [29] Robert Kowalski. A logic-based approach to conflict resolution. url: <http://www.doc.ic.ac.uk/~rak/papers/conflictresolution.pdf>
- [30] V. Christianto & F. Smarandache. A Review of Seven Applications of Neutrosophic Logic: In Cultural Psychology, Economics Theorizing, Conflict Resolution, Philosophy of Science, etc. *J* 2019, 2(2), 128-137; <https://doi.org/10.3390/j2020010>