

Applications of Neutrosophic Membership Function in Describing Identity Dynamics in Missiology and Modern Day Ecclesiology

(An exploration in Mathematical Theology)

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Abstract

As Paul Hiebert called it in his paper: “*The flaws of excluded middle*,” people especially in Asia and Africa can adopt a “middle Earth” view, i.e. a world where both rationality and supra-rationality can co-exist. Such an “included middle” worldview can be viewed in terms of Neutrosophic Membership Function too. Similarly the dynamics of identity change between outer faiths and Christianity is often a long and complex process, and we submit that it can be modelled as a spectrum, of which some people described the process as C1-C6. This spectrum can be viewed in terms of Neutrosophic Membership function. In this paper, we offer a fresh look at these problem using two new concepts: Liquid church and also Neutrosophic Membership function. It is our hope that our model, which may be called “*Neutrosophic Liquid Ecclesiology*,” can shed some light on the interaction and dynamics in Missiology and modern day Ecclesiology, especially in Asia and Africa context. All in all, this paper may be considered as an exploration of a new subject in doing theology: *Mathematical Theology*.

Introduction: dynamics of Christian identity

The dynamics of identity between outer faiths to Christianity is often a long and complex process, and we submit that it can be modelled as a spectrum, of which some people described the process as C1-C6. This spectrum can be viewed in terms of Neutrosophic Membership function. Similarly, people especially in Asia and Africa can adopt a “middle Earth” view, i.e. a world where both rationality and supra-rationality can co-exist, as Paul Hiebert called it: “The flaws of excluded middle.” Such an “included middle” worldview

can be viewed in terms of Neutrosophic Membership Function too. In this paper, we offer a fresh look at these problem using two new concepts: Liquid church and also Neutrosophic Membership function.

In the first section, we will give a short review on the Liquid Church, then we will review Neutrosophic set and membership function. Thereafter we will discuss how we can see dynamics of Christian identity through these two concepts.

What is Liquid Church?

Ward draws upon the writing of Zygmunt Bauman who explores contemporary Western culture and who notes that modernity has produced institutional expressions of church that tend to be more solid and rigid. Ward also describes various mutations of solid church that he describes as heritage site, refuge, and nostalgic community.

So he refers to the present as 'liquid modernity'. The solid ice of modernity is melting away, resulting in some big ice chunks left floating about an increasingly fluid culture. It's a helpful metaphor that effectively frames his thoughts throughout the book.

Ward's recommendation is that the church must become liquid in order to reach a liquid culture. Solid church (aka, Church as we've always known it), centered on a weekly congregational gathering, is completely irrelevant to a liquid culture that no longer utilizes a regular, weekly, social gathering as its primary method of communication and community formation. Instead, liquid culture relies on networks, communication processes based on hubs (affinity-based gathering beyond a Sunday morning service) and connecting nodes (methods of communication/participation in the network).(2)

What is Neutrosophy?

Vern Poythress argues that sometimes we need a modification of basic philosophy of mathematics, in order to re-define the redeemed mathematics. See [10]. In this context, allow us to argue in favor of Neutrosophic logic as one basic postulate, in lieu of the Aristotle logic which creates many problems in real world.

In Neutrosophy, we can connect an idea with its opposite idea and with its neutral idea and get common parts, i.e. $\langle A \rangle \cap \langle \text{non}A \rangle = \text{nonempty set}$. The common part of the uncommon things! It is true/real... paradox. From neutrosophy, all started: neutrosophic logic, neutrosophic set, neutrosophic probability, neutrosophic statistics, neutrosophic measure, neutrosophic physics, neutrosophic algebraic structures etc.

a. Neutrosophic view on dialectics can be summarized as follows:

It is true in restricted case, i.e. the Hegelian dialectics considers only the dynamics of opposites ($\langle A \rangle$ and $\langle \text{anti}A \rangle$), but in our everyday life, not only the opposites interact, but the neutrals $\langle \text{neut}A \rangle$ between them too. For example: you fight with a man (so you both are the opposites). But neutral people around both of you (especially the police) interfere to reconcile both of you. Neutrosophy considers the dynamics of opposites and their neutrals.

So, neutrosophy means that: $\langle A \rangle$, $\langle \text{anti}A \rangle$ (the opposite of $\langle A \rangle$), and $\langle \text{neut}A \rangle$ (the neutrals between $\langle A \rangle$ and $\langle \text{anti}A \rangle$) interact among themselves.

b. What is Neutrosophic membership function?

A neutrosophic set is characterized by a truth-membership function (T), an indeterminacy-membership function (I), and a falsity-membership function (F), where T, I, F are subsets of the unit interval [0, 1].

As particular cases we have: single-valued neutrosophic set {when T, I, F are crisp numbers in [0, 1]}, and interval-valued neutrosophic set {when T, I, F are intervals included in [0, 1]}.

Neutrosophic Set is a powerful structure in expressing indeterminate, vague, incomplete *and* inconsistent information. (3)

c. A lesson from Jerusalem Christianity in the First Century

It is known that the early churches especially the Jerusalem Christianity was not a monolithic congregation, instead it was composed on variety of groups: Pharisee Jews, Aramaic speaking Jews, Hellenistic Jews, and also the Gentiles. As the book of Acts told us, these groups were often in miscommunication among each others. This story can be inferred from Acts chapter 15, and also from the letter to Galatians. However, this group can also grow rapidly just because they maintain a Neutrosophic identity, or in Ward's term: Liquid ecclesiology.¹ If we are allowed to put this view on Early Church especially in Jerusalem Christianity, it is as follows:

¹We thank to Dr. Robby Chandra for fruitful discussion on a liquid view of the Early Church. However such an assertion needs further study.

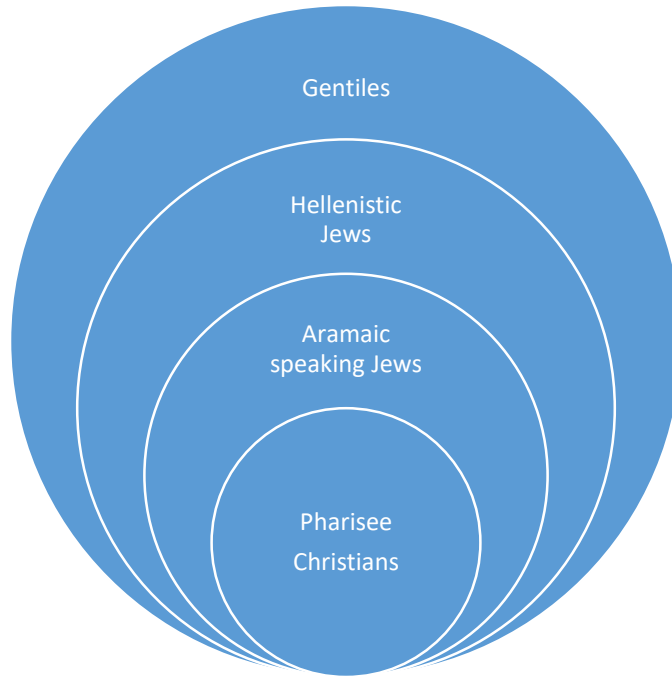


Diagram 1. The stacked diagram of Jerusalem Christianity, derived from the book of Acts

Liquid Church and Neutrosophic Membership Function's View on Dynamics of Christian Identity

According to Paul Hiebert, most people in Asia and Africa often adopt a view which accept both rationality and supra-rationality. Unfortunately, many Western-born missionaries only adopt a worldview that Christianity equals to rationality, period. As a result, Christian missionaries often oppose the mystical belief of people that they are ministering. Such a different worldview can result in many confusing problems in Missiology processes in Asia and Africa.

The integral view of humanity and spirituality, instead of two-tiered Western view of the world, appears to be more in line with majority of people in underdeveloping countries, especially in Asia and Africa. See for instance the work by Paul Hiebert [1].

Therefore we propose that such a flaw in excluded middle worldview (originated in Aristotelian logic) can be elevated if we adopt a new non-Aristotelian logic, which we call Neutrosophic logic, included with Neutrosophic Membership function. In other words, we should accept that in real world, most people accept that both rationality and supra-rationality co-exist. In other words, we are not just rational thinkers, as philosophers assumed.

In the same way, in doing Ecclesiology in this modern day Asia and Africa, we need to consider the complex identity possibilities, which can be adopted by people from other faiths and Christianity. In other words, the distinction between those who are Christians and those who are not can be so blurred, as people can choose to be semi-Christian or half-Christian.

This process has been viewed by some studies in Missiology, as C1-C6 groups. In these groups, people feel happy because they are not pushed to become like Western churches, with Western way of life.

Therefore, we consider the following applications of Neutrosophic membership function Ecclesiology and Missiology: it is common to find that many Buddhist people are also observing Christian teaching, because they hear that Jesus's teaching may have similarity with Zen Buddhism. Or Hindu people may find similarity between Jesus and Khrisna, a mythic hero in Hindu mythology. Although Khrisna is mythical, this may be viewed as early step to become a real disciple of Jesus. This reality should be considered by anyone trying to build a mission ministry in Asia and Africa regions.

Concluding Remarks

As Paul Hiebert called it: “The flaws of excluded middle,” people especially in Asia and Africa can adopt a “middle Earth” view, i.e. a world where both rationality and supra-rationality can co-exist. Such an “included middle” worldview can be viewed in terms of Neutrosophic Membership Function. In this paper, we offer a fresh look at these problem using two new concepts: Liquid church and also Neutrosophic Membership function.

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