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Short Communication

A Short Enquiry on Social Anthropology in Mathematics

Chinmay Biswas, PhD*

Department of Anthropology, Sree Chaitnaya College, Habra, North 24 Parganas, WB 743268, India

**Corresponding author*
Chinmay Biswas, PhD
Assistant Professor, Department of Anthropology, Sree Chaitnaya College, Habra, North 24 Parganas, WB 743268, India; E-mail: chinmaybiswas333@gmail.com

▌ABSTRACT ▌

Mathematical anthropology is a well-known subject of anthropology research nowadays. Mathematical anthropology solves intriguing and significant difficulties in anthropological theory. Several publications and books have published articles or scientific papers by notable scientists on this topic. The mathematical anthropology analysis fast and improvised that particular field exclusively in the framework of kinship. Several scientists have studied mathematical analysis of genealogy, kinship terminology, and culture theory, among other topics, but "*Social Anthropology in Mathematics*" is a new field of social anthropology, not a replacement for mathematical anthropology. It uses some simple mathematical formulas to explain any social anthropological investigation. The study of social anthropology in mathematics requires the use of simple mathematical formulas. This is the subject of the current brief communication.

Keywords
Mathematics; Anthropology; Lineage; Clan, SET theory; Culture.

ANTHROPOLOGY IN MATHEMATICS ▌

In mathematics, there has long been a divide between mathematical snthropology and social anthropology. Mathematical Anthropology is a distinct branch of applied mathematics in which mathematicians and anthropologists work together to address many forms of anthropological concepts and hypotheses. Mathematical anthropology is a pure and fundamental field of study. Expert mathematicians and anthropologists with a good understanding of higher mathematics are probably the best candidates for this job. Students with an anthropology background have almost certainly tried to pique their interest in this field by incorporating the concept of anthropology into mathematics. Indeed, social anthropology in mathematics does not cover the entire field of pure mathematical anthropology. This course or lance, though, could be compensated for the scholar's mathematical curiosity by the practice of simple mathematical creation of social and cultural anthropology ideas. The central means of the concept of social Anthropology in mathematics could be a few simple principles, symbols, and equations from elementary mathematics. The goals of both thinking are distinct from one another. Mathematical anthropology entails determining the reality in society, implying that anthropology theory cannot exist without mathematics to some level. "*Mathematics is the mother of science—while social science theories have their roots in this discipline, it has gloried and endured for all*". Higher mathematics is not required for outstanding anthropology study.

In this case, anthropology in mathematics is required.

The concept of 'Genealogical mathematics has appeared fundamental to work several in fields. In social anthropology, genealogies as such are the primary method for fieldwork.[1] Consequently, a recent study has occurred on clan and lineage. The lineage has been experimented with by the directed line of the segment of vector and scalar properties. Properties of vector and scalar theorem applied analogically. The study tried to enlighten on a relation between lineage and directed line segment and has existed or not in the perception of the analogical approach. Simple to know-two positions have determined their origin and the other latest point. Origin is not an actual locus, so it may be termed as 'Apical ancestors' because origin could not be able to calculate certainly for its long backward direction. The terminal position signifies the locus that presents the latest generation, and it will be going in the future. So, therefore one thing has cleared that lineage has a direction, and draw a straight line between these two positions in genealogy, and we have usually found a straight line that contains several loci of persons. This straight line has characterized by its magnitude and having a direction. The study shows that apical ancestors and their latest generation made the straight line due to the transmission of clan taboos on genealogy. At that moment, we know that every lineage has two dimensions meaning "*Maximum and Minimum lineage*" according to the theory of kinship. Every successive parental

stalk in time and space - is carried out by a substantial number of directed line segments. These line segments are discussed or proved by the triangle and parallelogram or *p*-system graph theory. The study had intended to exercise the overview of male or female line inheritance patterns by using analogically directed line segments of vector and scalar quantities. Though, the investigation does not mention the other properties of the vector. Genealogy has categorically acted as a catalyst has seen, and in this approach the 'Genealogy' method is essential in the domain of the study of analogical magnitude fields where time and space have been seen.[2] Biswas et al[3] have also shown the following diagram for their study.

Diagram 1: Lineage Straight Line with Direction

Imagine you are drawing a hypothetical genealogy from the first generation to generation six. Then you will get a straight line under the dimension of patrilineal (male to male) or matrilineal (female to female).

Gen-I ⟶ Gen-VII

[that straight line is drawn based on kinship, and it could be considered as the line which has a unique direction from ancient to present and future]

Diagram 2: Initial and Terminal Position

Now you think this a way that on the straight-line Gen-I represents as an initial and Gen-VII as terminal position then we find;

A (initial point) ⟶ B (terminal Position

[A=Gen-I and B=Gen-VII]

Some scholars have described culture as energy in an anthropological context - the components of culture are two types: one is its material form, known as material traits, and another is social traits. Hence, we have considered that fact through the analogical concept that culture has two major components: which would likely to describe as its material and energy level. The material traits are the state of potential energy. It has mass, weight, and volume. Let's look at a book as an example of 'material traits that hold the mass, energy, and volume (length, breadth, and height), and 'song' is sound energy that is structured' by step-by-step musical tunes. These are social traits as well as possess energy. Therefore, it would like to express analogically' that 'energy is a form of culture'.

The study intends to draw a relation between time, space, and genealogy: and where genealogy somewhat looks like a 'space' where individuals presented concerning the time. The 'time and space' have controlled the genealogical existence of human groups and the continuity of human society. Therefore, social anthropological research can be a more meaningful or enlightening mission with the help of these two lenses. The study has also reported that genealogy is influenced by three components; these are marriage, death, and birth. These three components have a value of negative and positive nature. The positive value i.e., birth always increases

and the negative charge decreases the numerical strength of a genealogy. And a major; institution like 'marriage' confirms the role of birth.

[Biswas[4] prescribed a figure which is cited here for understanding the piece.]

Marriage='+' and '–' charge (Male/Female)

Birth='0' or '+' charge $(x^1, x^2, x^3, \ldots, x^N)$=0/one and more

Death=only negative value $(-x^1, -x^2, -x^3, \ldots, x^N)$=Less than '0' (Death is the only character that possessed a negative charge but birth is a typical character that possesses two values i. e. "0" and more than 'Zero'. 'Zero' is not a character of Negative because after birth offspring's can be dead-hence negative value suggests death, not for birth. So, the theorem is that "*birth always positive occurrence or factor and greater than zero in respect to the time and space in a genealogy*" (Birth>0).

This paper discusses the festivals of 'Urban Oroan' tribes in the district of West Bengal. Urban tribes mean the migrated people who had been coming to the city or semi-urban areas for hundreds of years back. Particularly they were hired by moneylenders, landlords, different companies' supervisors for the labor of railway construction work, jungle cutting, river dam works, etc. Afterward, they had not returned to their cradle house. They live here permanently. Therefore, slowly foreign urban traits have been entered their way of living. As a result, they breed a new cultural stage where traditional cultural traits would not yet be hampered or be lost but modified and merge into modern cultural activities. Now urban Oraon celebrates two types of festivals –which are mentioned by the author as "Ideal" and "Modern" types. "Ideal" type has referred to the traditional ritual and festivals of the Oraon tribe, and Modern festivals mean the festivals which are usually celebrated by upper caste people. These two facts are the main components of a 'set' as the author explained and denoted as Ideal (x), and Modern (y). The author pointed out those functionally three types of festivals i.e. family (A), clan (B), and community (C) is celebrated by them. With that festival thus two elements have been blended. Another one element also mentioned by author i.e., invitation of neighbor (z), and three festivals are represented as three sets i.e. {A}=family festival, {C}=clan festival, and {B}=community festivals. Therefore it can be represented that Set-A {x,y,z}, Set B {x,y,z}, and Set –C {x,y,}. The clan festival (C) possesses only two elements; element 'c' does not exist. Two set A and B are equal (A=B) if they consist of the same elements. In the end, the author has tried to explain that Set A and B are the proper subsets of C because in Set C the element 'y' is usually not found. The study exerts that Oroan people in past no clan festivals celebrated but in case urban Oroan people have been practicing the clan festival that is the new form of Urban Oroan people behavior pattern. No null set is detected, and a community festival can be called a superset festival or a family festival. So, it is mentioned that the festivals of urban Oroan people are governed by set theory analogically.[5]

Therefore, I have focused some examples on the concept

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of social anthropology in mathematics, which is far away from mathematical anthropology indeed. In the present situation, social anthropology in mathematics is essential for the study of anthropology. Social anthropology in mathematics could be a substitute for the theory of anthropology explanation. It is the primary stage of mathematical anthropology that begins. The students of anthropology' sometimes get an opportunity to study anthropological mathematics-especially those who are not well-trained in higher mathematics. Simple mathematical formulas are the study tools of anthropological mathematics. Anthropological mathematics is the new language of anthropology theories. The present essay is a brief communication that deals with the study of social anthropology in mathematics. Social anthropology in mathematics or anthropological mathematics is not an equipped distinct sub-division of anthropology at this moment. It is now a premature condition. More effective studies should be work done for its development. It is better to call that particular approach the very beginning stage of mathematical anthropology. Therefore, it has value for developing the research of anthropology, and it is a new dimension of anthropology research and also applied research.

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