# Review of: "Mathematics Is Physical"

Dr. Kiran Kumar

Potential competing interests: No potential competing interests to declare.

In this article, the author has proposed “Mathematics Is Physical”. The topic is interesting really There is no universe without maths. How the entire physical things evolve around mathematics is very interesting to know. A system whether its any theory or computers or machines, all of them perform physical operations. Although mathematics is employed throughout the physical sciences, the question of whether mathematics is a physical science is frequently debated. Those who classify it as a physical science point out that physical principles may be stated mathematically and that the concept of number emerges from counting physical objects. Those who argue that mathematics is not a physical science regard numbers as abstract abstractions that are useful in representing groups of objects but do not derive from physical objects. In fact, this article seems to somewhat give some theory to the debate of Mathematics is Physical. Any theory of physical in practice can be converted into a formula or an algorithm that is the beauty of mathematics. The theories of the natural sciences appear to be less certain and more open to revision than mathematical theories. For these reasons mathematics poses problems of a quite distinctive kind for philosophy.

On the one hand, philosophy of mathematics is concerned with issues that are strongly related to core metaphysical and epistemological issues. At first glance, mathematics appears to be the study of abstract entities. This begs the question of what the nature of mathematical entities is and how we might gain knowledge of them. If these difficulties are deemed insurmountable, one can consider whether mathematical objects can, after all, belong to the real world.

Information, according to general theory of information ( GTI,) is not tangible in and of itself, but it can have physical and/or mental representations. As a result, a bit of information has no mass, but the physical structure that represents the bit has. Furthermore, the same bit can have various physical representations (for example, a sign on paper, the state of a flip-flop circuit, or an electrical voltage or current pulse). Naturally, the masses of these various physical representations can differ, even though the information is the same. As a result, the underlying physics constrains mathematics and computation. ( **https://doi.org/10.3390/info13110540**)

The quantum Turing machine (QTM) is the quantum counterpart to the Turing machine (TM). There is a close similarity to the classical counterpart in many ways. Though a quantum Turing machine may be defined more or less canonically, various conceptual issues related to it and the concept of 'quantum computation' exist and remain unresolved. Other features of the quantum Turing computer, such as whether universality holds or not, are still unclear.( https://doi.org/10.48550/arXiv.cond-mat/9710259)

A dynamical system is a mathematical system in which a function explains the time dependence of a point in an ambient space, such as a parametric curve. Mathematical models that represent the swinging of a clock pendulum, the flow of

water in a conduit, the random motion of particles in the air, are some examples. By allowing alternative options of space and time measurement, the most general formulation combines several ideas in mathematics such as ordinary differential equations and ergodic theory.

With suitable modifications and with review of latest articles in the web, this article can offer with a better grasp of the complex link between mathematics and physics.