On the foundations of new geometry

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Pythagoras provided a glimpse of the answer 2,500 years ago when he declared, "All things are numbers".. Mathematics - built from numbers - is not an abstraction but is ontological: it actually exists. Numbers are real things. Specifically, they are the frequencies of energy waves. Real numbers correspond to space and imaginary numbers to time. Negative numbers are "antimatter": a mirror image universe. The two most powerful numbers of all - and the ultimate basis of Illuminist thinking - are zero and infinity, which are harnessed together ontologically (opposite sides of the same coin, so to speak). The existence of zero and infinity is vehemently denied by the ideology of scientific materialism. Zero and infinity comprise the Big Bang Singularity itself from which an infinitely large universe emerged: "everything" literally came from "nothing". .

Mathematics is literally everything. Unlike science, mathematics offers certainty: 100% true and incontestable knowledge. Mathematics unifies science, religion and metaphysics. Mathematics is the true Grand Unified Theory of Everything that science pursues so futilely. Science can never deliver truth and certainty because it is inherently a succession of provisional theories, any of which can be overturned at any time by new experimental data. Science is based on ideas of validation and falsification. Mathematics is based on absolute analytic and unarguable certainty. No experiment can ever contradict a mathematical truth. Mathematics is the ONLY answer to everything. Mathematics is the ONLY subject inherently about eternal, Platonic truth. As soon as existence is understood to be nothing but ontological mathematics, all questions are ipso facto answered. Ontology and epistemology are finally united in the doctrine of "living mathematics". Mathematics is not a reflection or model of reality. Mathematics IS reality.

Mathematics is a basic science and is fundamental as infrastructure supporting science; it contributes to present society indirectly through science, as a means to solve various problems brought forward by science. Through the development of computers, however, new methodologies based on mathematical theories have come to be directly applied to technology itself. At the same time, advanced mathematics is being used as a means to describe models. Even patents based on mathematical contents have come to be granted, and there is an increasing need for research into the application of mathematics in line with its application in society.

Yet often mathematical theories may take as long as 50 or 100 years after their creation to come into application. In many cases, a mathematical theory; that turns out to be highly applicable, is created as the result of a purely conceptual quest, with no intention originally of applying it to practical problems. It is essential in mathematical research for researchers to be able to pursue their studies in a free atmosphere, regardless of the fields, without worrying about whether or not their work will be directly applicable. On the other hand, mathematics cannot answer the expectations of society without giving some attention to its applications.

In theoretical physics, quantum geometry is the set of new mathematical concepts generalizing the concepts of geometry whose understanding is necessary to describe the physical phenomena at very short distance scales (comparable to Planck length). ..Physics is probably the one area of science where many areas of mathematics have been directly applied. The reason is simple; nature seems to obey 'mathematical rules' rather than acting whimsically. In other words, it seems that natural laws can be expressed in terms of mathematics. Why this should be so, nobody knows. The truth of the matter is, you can never know enough mathematics. To a physicist, mathematics is a toolbox. Before attacking a particular problem, you should have the necessary tools for the job. There are some tools (such as calculus) that should be in any physicist's toolbox, but as they specialize, they will add extra tools needed for the specific problems at hand.

Well there are lots of very useful maths. I'll take you through the most important in terms of the developments in fundamental physics:

Classical Mechanics - Calculus
Electromagnetism - Vector Calculus
General Relativity - Spherical geometry, Differential Geometry
Quantum Field Theory - Matrices, Group Theory
Superstring Theory - Knot Theory

Each new development in physics often requires a new branch of mathematics. I would say that the older maths are the most widely used in physics now such as calculus - so are probably the most useful. One has to view physics as a branch of applied mathematics. In quantum mechanics you will deal more with algebraic techniques. For example matrix operations and transformations are very common. So, you might argue that algebra has more use. But before you think that quantum mechanics is predominantly a discrete field, I would like to make you aware that partial differential equations do creep in here (for eg. solving Schroedinger's equation for given energy values). However, a good understanding of modern physics can only be based on a good understanding of classical ideas. Of course, algebra can be extremely powerful in many fields, even beyond quantum mechanics (for eg. DSP and cryptography).

The language of physics is mathematics. In order to study physics seriously, one needs to learn mathematics that took generations of brilliant people centuries to work out. Mathematics is, I believe, the chief source of the belief in eternal and exact truth, as well as a sensible intelligible world. (Bertrand Russell)

From this we can conclude that there are two types of mathematical truths.
i) Mathematical Truths only.
ii) Mathematical Truths which also correspond to Physical Reality.

An important example of a mathematical truth which is also true of physical reality is Pythagoras' theorem. This is the reason for this relationship’s great power, and its use in Einstein's metrics.

It is well known that the classical Euclidean geometrical concepts and calculus are the basic foundations in Newtonian mechanics. Einstein’s relativistic theories mainly rely on tensors and non – Euclidean geometries. So, a new branch of mathematics is very essential for the creation of a new field of physics.

It is the most persistent and greatest adventure in human history, this search to understand the universe, how it works and where it came from. It is difficult to imagine that a handful of residents of a small planet circling an insignificant star in a small galaxy have as their aim a complete understanding of the entire universe4,a small speck of creation truly believing that it is capable of comprehending the whole. Still the universe seems to operate by several sets of rules that act in layers, independently of each other. The most apparent basic rules of nature, gravity, controls the biggest objects in the universe , the stars , the planets , you and me. The other three that scientists have uncovered operate at the sub atomic level: the strong nuclear force trillions of times more powerful than gravitation, holds the nucleus of an atom together; electromagnetism keeps electrons in place around the nucleus, making ordinary matter seem solid; the weak nuclear force causes radioactive decay in certain atoms, like uranium.

Galileo was Newton’s , Einstein’s as well as Hawking’s direct intellectual forebear in the sense that he was the first to define gravitation, nature’s most pervasive yet, paradoxically its weakest force. Since Galileo it has been a matter of correcting, redefining, and adjusting the original explanation. Newton repaired and refined Galileo; Einstein honed and broadened Newton’s basic laws to include the entire universe. Now physicists and cosmologists are trying to do the same to Einstein’s general relativity, the modern explanation of gravitation and the force that most concerns cosmologists. The most remarkable thing about general relativity was that Einstein away with the concept of gravitation as a force. In fact , he said , there was no such thing as the force of gravity. It was instead the geometry of the universe – the curved geometry supplied by Riemann – that was responsible for the force we think of gravity. Einstein called his curved space a space-time continuum. Einstein's field equations describe the geometry of space-time, and he was certain they would work for the geometry of all space-time – that is , for the universe from its beginning to the end. Einstein's predictions have been experimentally verified time and again.

Quantum mechanics is a mathematical system developed during the 1920s and 1930s and is wholly alien to general relativity. It explains the interactions that take place at the sub atomic level, and at its core is the uncertainty principle first announced in 1927 by the German physicist Werner Heisenberg, The uncertainty principle states that certain pairs of qualities, such as the position and momentum of an electron , cannot be measured simultaneously. This means that the electron is not the objective, Absolute and determinable bit of matter that classical physics describes, but a sort of objective entity that in a sense is smeared out around the nucleus. This uncertainty principle distinguishes quantum mechanics from all other physics because it declares mathematically that atomic and nuclear particles are distributed in an uncertain and random fashion. The location at any instant of any particle can be described only using a system of probabilities and statistics. It was this element of unpredictability that made quantum mechanics unacceptable to Einstein. He insisted on viewing the universe as an orderly, predictable place. General relativity was a perfect reflection of that view. To Einstein the quantum system was philosophically and mathematically unequipped to exist in the same universe with general relativity. Today's physicists, though , consider it of equal importance to general relativity. And like general relativity, quantum mechanics has met every experimental test ever devised for it. These experiments are conducted in particle accelerators that break apart the constituents of atoms to find out what they are made of, a process that some theorists caustically liken to smash a watch to see what falls out. Physicists have been unable to reconcile this system with the view of the universe posited by general relativity. While general relativity allows a perfect point like singularity at the beginning of time, quantum mechanics does not , for it prohibits defining at the same time the precise location, velocity and size of any single particle or singularity. But let us recall that Einstein's unification of mass and energy led to the age of the atomic bombs. And this quantum mechanics paved the way for the invention of lasers.

The above two different and consistent fields of physics are the pillars of modern physics. But Einstein's general relativity theory is incompatible with quantum physics. This is a problematic problem to physicists. Besides this, the standard model of particle physics is incomplete. Gravitons and darkons should be included. Both theoretical formulations and experimental verifications are to be carried out. To meet these requirements, there should be an origin of new branch of mathematics. Only the applications of this new math. will unlock the hidden mysteries of physics and cosmology. To fill this gab, I have recently found the inventions:

1) There exists a spherical triangle whose interior angle sum is equal to 360 degrees.

2) There exists a spherical triangle whose interior angle sum is equal to 540 degrees.

I have spent more than 30 years for geometric research. My findings have been appeared in various international journals. This experience is a great boon to put the above two inventions in to physical applications. So, I am confident that my results will be applied to solve the followings FOUNDATIONAL problems:

1) Quantum gravity

2) New theory of gravity

3) Inclusion of gravitons and darkons in to the standard model of particle physics

4) The gravitational waves

5) Dark matter and dark energy.

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