

PEACE VIEWSLETTER

Philosophical implications of Universal Theory of Relativity: Role of God in the Universe, Time, Determinism, Quantum Mechanics

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An American journal, "Nature and Science" has, in its March issue of 2005, published a paper authored by Dr. Javed Jamil, entitled, "Rediscovering the Universe: the Beginning of the Final Revolution", which is in fact a part of the recently published book by the author under the same title. The paper published in the journal is about the philosophical implications of the Universal theory of Relativity, presented by Dr. Jamil in his book. This theory is an open challenge to the currently popular theory of Physics, which is based primarily on Einstein's Special and General theories of Relativity and Hubble's theory of expanding universe, and if proved correct, will revolutionise not only physics but also other natural and philosophical sciences. Dr. Jamil's theory consists of three basic postulates: First, the speed of light is not constant (as theorised by Einstein) but stable. He has for the first time in the history of Physics provided a theoretical basis to assert that light speed is not the highest speed possible, and in fact much greater speeds are possible. Second that the universe is not expanding (as theorised by Hubble) but rotating as a whole (apart from the motions of its constituents) around its axis. Not only this will explain the red-shift, but will also answer most of the unanswered questions of Physics. Third that gravity propagates at a huge speed, and not with the speed of light, as theorised by General theory of light. The book discusses structural, functional and philosophical implications of the theory in separate chapters. The American journal has published the philosophical implications, including Role of God, Determinism, Time, Quantum Mechanics, etc. Here, the portion related to "Role of God" is being reproduced. The full text of the chapter can be read at the website of "Nature and Science":

<http://www.sciencepub.org/nature/0401>

<http://www.sciencepub.org/nature/0401/01-0107-javedjamil.doc>

<http://www.sciencepub.org/nature/0401/01-0107-javedjamil.pdf>

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Rediscovering the Universe: the Beginning of the Final Revolution

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Philosophical implications, Role of God

From time immemorial man has talked of God. Most of the humans have believed God created the universe and sustains it. A minuscule percentage of humans have argued that man created or invented God and their psychological and social needs sustain Him. In sciences too there have always been a huge controversy on the role of God in the creation and sustenance of the universe. The evolution of knowledge including natural sciences in the last two centuries has been under the influence of what I call Economic Fundamentalism. Industrial Revolution resulted in progressive strengthening of the grip of the industrialists over the

world and the ideology they propagated. The impact of the economic fundamentalism on the growth and form of sciences has been one of the issues that I have discussed in my earlier works, "The Devil of Economic Fundamentalism" and "The Killer Sex". I feel it is worthwhile to reproduce parts of those discussions here:

"Science is the name given to the efforts for arriving at the truth and knowing the realities. It unfolds mysteries of nature and explains how scores of natural forces combine to maintain perfect harmonious equilibrium essential for the sustenance of the universe and the survival of all living beings. It teaches us how to avail ourselves materials and energies for different

purposes. It would however be dangerous to presuppose that science is merely an informer and has nothing to do with our morals. What is incontrovertible is that science too, like religion, has been and is being misused by the vested interests. The dagger of blame falls not on science, but on those who misappropriate it. A general empathy towards religion that was the outcome of maledictory campaigns against it by the forces of economic fundamentalism influenced scientists too, who strove to present science as an antidote to religion. Religion had already been equated with orthodoxy and retrogression. It was therefore natural for the emerging edifice of science to maintain a safe distance from the faith. Hence, when science discovered that there exists a most wonderful equipoise in the universe that keeps life intact, that there seems to be a common cause of all the causes (or a common force behind all the forces), and the common cause has to be cognisant of the needs of all the creatures, scientists and philosophers named this common cause Nature. Had it been called God, the avowed antagonism of religion by science would have suffered a major setback. The acceptance of the One by science could have been a big boost for moralists. Materialists could have faced encumbrances in their naked pursuit of money.

Thus, numerous laws governing the vast universe were labelled not as God's or Creator's Laws but the laws of Nature. The laws of gravitation and motion, for instance, were called Newton's Laws of Gravitation and Motion rather than the Creator's Laws, as if Newton created these laws, who in fact only tried to elucidate them. Despite all these attempts to banish God from the realm of science, the truth is that science cannot move an inch without assuming the presence of a being who is all-seeing, all-knowing, all-powerful, eternal, wise, calculating and all-pervading. It has only tried to infatuate itself by calling this omnipotent, omnipresent and omniscient being as Nature. Can science enlighten us how particles, or space, or waves forming "Nature" possess faculties of intelligence and wisdom? Can it explain why all the physical laws remain the same everywhere in the universe. (Einstein's theory of relativity postulates that physical laws are the same in all co-ordinate frames all over the universe.) Science claims itself to be the truth and nothing but the truth, or an effort to arrive at the truth. But its signal failure has been its inability to recognise the greatest truth of the universe. It is not that science transformed its exponents into atheists. In fact, the greatest scientists of the world including Einstein, Darwin and Newton had an unshakeable belief in the presence of the One. But what their hearts were cognisant of, their pens could not describe in a scientific jargon. It was less perhaps because they found their belief scientifically untenable and more because they were scared of becoming targets of anti-religion elements that had a dominating presence

in society. Both capitalism and socialism, the two great faces of economic fundamentalism had anathema for God whose fear and love created "unnecessary" impact on human morals."

In short, the development of modern sciences has been in an environment of antipathy towards religion. It was therefore accepted as a fundamental principle by scientists all over the world that God has to be kept out of science at all costs. Heisenberg confirms this when he says:

"The mechanics of Newton and all the other parts of the classical physics constructed after its model started from the assumption that one can describe the world without speaking about God or ourselves. This possibility soon seemed almost a necessary condition for natural sciences to grow."

Why should natural sciences start on that assumption when there was no need to disprove God? Had God's existence been accepted, what bad could it have done to sciences? Still, sciences could have tried to understand "God's mind" and His creation and the laws that governed the universe. But this would have weakened the position of the economic fundamentalists against religion, which had belief in God as the foundation on which it rested. Religion posed huge risks to the advance of the economic designs of the forces of economic fundamentalism. Religion promoted morality, abstinence from certain practices like alcohol, gambling, extramarital sex and simplicity in life. All these things were seen as the foes of "development", and religion therefore was not acceptable. Faith in God and His punishment to the evildoers would greatly reduce the speed of the "growth". If scientists started confirming the existence of God, it would make life difficult for the big business. They will find it hard to promote consumerism and commercialise evils; there will be no place for bars, beaches, casinos, brothels, night-clubs and pornography in such a dispensation.

In spite of the general antipathy in the scientific community towards religion and God, sciences could never get free of God altogether. Top scientists couldn't keep away from talking of God. Einstein and Bohr had constant debates about the role of God in the formation and functioning of the universe. In response to the idea of uncertainty that Quantum Mechanics advanced, Einstein, in the now famous duel with Bohr, remarked, "God does not play dice". To this Bohr retorted, "Don't try to tell God what to do!" While discussing the laws of science as we see today without talking of God was not unavoidable, the creation of the universe automatically warranted such discussion. Let us try to sum up the position of the current Physics about the role of God.

Scientists have always wondered the beauty of the universe, especially how it has led to the creation or evolution of intelligent beings like us. There is a certain beauty in the underlying plan. John Polkinghorne says:

"...the universe, in its rationale, beauty and transparency, looks like a world shot through with signs of mind, and maybe, it's the "capital M" Mind of God we are seeing.....there is some deep-seated relationship between the reason within (the rationality of our minds - in this case mathematics) and the reason without (the rational order and structure of the physical world around us). The two fit together like a glove."

The laws all over the universe are the same. The Question arises why. In the theory of Big Bang, there has not been an enough time for the distant regions to communicate with another, seeing that nothing can travel faster than the light, according to the theory of Relativity. Hawking says:

"Nevertheless, it leaves a number of questions unanswered:

Why was the early universe so hot?

Why is the universe so uniform on a large scale? Why does it look the same at all points of space and in all directions? In particular, why is the temperature of the microwave background radiation so nearly the same when we look in different directions? It is a bit like asking a number of students an exam question. If they all give exactly the same answer, you can be pretty sure they have communicated with each other. Yet in the model described above, there would not have been time since the Big Bang for light to get from one distant region to another, even though the regions were close together in the early universe.

According to the theory of relativity, if light cannot get from one region to another, no other information can. So there would be no way in which different regions in the early universe could have come to have had the same temperature as each other, unless for some unexplained reason that happened to start at the same temperature."

Hawking has progressively grown into an agnostic as far as the role of God is concerned. He has been busy finding solutions in which the universe could be thought to have had no beginning. In the above writing, he has raised an interesting example of students solving the same question with the same answer. If they have responded with exactly the same answer, there can be two reasons. First reason has been given by Hawking that is they must have had communicated with one another. But if there can be a surety that they could not communicate with one another, then what? There still remains a possibility, and that possibility is that they might have received the dictation from the same source.

In the Big Bang models based on the General Theory of Relativity, singularity was unavoidable. Penrose-Hawking Theorem proved that singularity at time zero is inevitable, and that time-space fabric would break down at the singularity. The Big Bang could not have occurred, it was argued, without the creation by God. But this position has not been acceptable to those

who do not want the existence of God within the realm of sciences. So, efforts have been on led by Hawking to find solutions where we can have a no-boundary situation for the universe. Hartle and Hawking proposed a situation where the dimension of time becomes fuzzy turning into a fourth spatial dimension as we approach towards singularity. At that point, time becomes meaningless. And that makes Hawking swell with confidence, which made him remark, "So long as the universe had a beginning, we could suppose it had a creator. But if the universe is really completely self-contained, having no boundary or edge, it would have neither beginning nor end: it would simply be. What place then, for a creator?"

But the truth remains that even this proposition does not abandon the concept of the beginning of the universe altogether. Because there again is an event where time becomes meaningful from a meaningless situation and the universe can be considered to have begun when the time becomes meaningful. The position of scientists regarding the beginning of the universe due to Divine creation has been conceded in an article written to counter the more popular belief. The article captioned "Theism, Atheism and the Big Bang Cosmology" by Quantum Smith, published in Australian Journal of Philosophy, March 1001 says:

"The idea that the big bang theory allows us to infer that the universe began to exist about 15 billion years ago has attracted the attention of many theists. This theory seemed to confirm or at least lend support to the theological doctrine of creation ex nihilo. Indeed, the suggestion of a divine creation seemed so compelling that the notion that 'God created the big bang' has taken a hold on popular consciousness and become a staple in the theistic component of 'educated common sense'. By contrast, the response of atheists and agnostics to this development has been comparatively lame. Whereas the theistic interpretation of the big bang has received both popular endorsement and serious philosophical defence (most notably by William Lane Craig and John Leslie, the nontheistic interpretation remains largely undeveloped and unpromulgated."

Another important discussion is centred about the Anthropic Principle. Before the 16th Century, the general understanding of man's position in the universe was based mainly on theological and other ancient concepts, which were represented by Ptolemaic principle. This principle states that we have a privileged position, perhaps in the centre of the universe. Galilee and Copernicus countered this and went on to pronounce that we have no privileged position in the universe. They argued that the part of universe we are living in was like any other part of the universe. But the 20th century cosmology again led to a visible transformation in thinking. It was argued that we ourselves are in fact

the products of the evolution of the universe, and had we not been there, there would have been none to appreciate the beauty of the universe. This position is represented by three principles called Anthropic Principles. These three are Trivial, Weak and Strong. Trivial principle regards the existence of human beings as nothing but a mere datum and does not give it any other significance. The Weak and Strong Anthropic principles are based on the acceptance that the existence of human beings is extraordinary. The creation of the human being depends upon a series of striking coincidences. Hawking says, "The remarkable fact is that the values of these numbers seem to have been very finely adjusted to make possible the development of life." The striking coincidences that led to the formation of intelligent life have been briefly summed up on a website, "St John in Wilderness: Physics and Faith":

"Elements up to Lithium-7 were produced in the Big Bang. All heavier elements were made later inside stars. Hence all of us are "star-stuff". Most of the molecules making up our bodies using elements manufactured in an earlier generation of stars that enriched the interstellar medium through their stellar winds or when they died in supernovae. Our own solar system then formed from this enriched interstellar medium, which contained the elements necessary for life.... However, the synthesis of the heavier elements is difficult -- the only reason they are produced at all is the extraordinary coincidence that carbon has an energy level that is nearly the same as the energies of three alpha particles (helium nuclei) inside a star. This correspondence allows the reaction: three Helium-4 nuclei colliding to form one carbon-12 nuclei ($3\text{ }^4\text{He} \rightarrow \text{ }^{12}\text{C}$) to occur with a high enough probability that a reasonable amount of carbon can be made, and from carbon, still heavier elements. (Physicists say the "cross-section" for the process is resonant, which is a consequence of the matching of the energy levels).

"Paul Dirac (1902-1984), one of the founders of quantum mechanics, noted that very large dimensionless numbers often arise in particle physics and cosmology. For example, ratio electrostatic force/gravitational force between a proton and electron= 0.23×10^{40} ; ratio of cosmological distance horizon ("radius of the universe") and "classical electron radius"= 3.7×10^{40} . It can be shown from the physics of stars that these large ratios are required for the lifetime of the average star to be in the range of billions of years. The rate of expansion of the universe is to be such that several generations of stars have time to age that is, the laws of physics and the initial conditions of the universe seemed "tuned" to allowing several generations of stars to live and die (a requirement for the production and dissemination of the heavier elements). The lifetime of an average star has to be sufficiently long to potentially allow a process such as the evolution of life to occur."

Hawking describes the extraordinary combination of coincidences as follows:

"... For example, if the electric charge of the electron had been very slightly different, stars either would have been unable to burn Hydrogen and Helium or else would not have exploded. Of course, there might be other forms of intelligent life, not dreamed of even by writers of science fiction, that did not require the light of star like the Sun or the heavier chemical elements that are made in stars and are flying back into space when the stars explode. Nevertheless, it seems clear that there are relatively less ranges of values for the numbers that would allow the development of any form of intelligent life. Most sets of values would give rise to universes that, although they might be very beautiful, would contain no one able to wonder at that beauty. One can take this either as evidence of a divine purpose in Creation and the choices of the laws of science or as support of the strong Anthropic principle."

But even the arguments of strong and weak Anthropic principle have been dismissed by those who do not want to see any Designer behind all this design. They try to explain this on the basis of random selections. For example, the same website ("St John in Wilderness: Physics and Faith") counters this on the basis of Execution Parable. L:

"A perspective on the explanations of "many universes" or "many domains" (Weak Anthropic Principle) versus a Designer (Strong Anthropic Principle) is offered by the Execution Parable of philosopher John Leslie..... You are blindfolded and about to be executed by ten expert marksmen aiming at your chest. The officer gives the order to fire the shots ring out, and you find you are still alive, unscathed! What is the rational explanation for your survival? Leslie suggests there are only two rational explanations: there were an enormous number of executions that day.

Occasionally even the most expert marksman will miss, and you happened to be in the one execution where all the marksmen missed, (and second that) your survival was intended and the marksmen missed by design."

This is difficult to understand however why there is insistence on finding a solution without God when a solution with God deals problems much easily. For example, scientists try to argue that coincidences and accidents, random selections can occur repeatedly in a way that it can lead to evolution of a better and more intelligent life. But they are not ready to accept that more than the probability of finding innumerable number of such coincidences in a way that they lead to what is desirable, the more probable is the presence of a Being who is designing this. This is like assuming numerous coincidences that led to the making of car rather than accepting that it has been designed and manufactured by a company.

It is also entirely incomprehensible why Occam's Razor is also disregarded while discussing the role of God. According to the well known scientific principle, "Pluralitas non est ponenda sine neccesitate". This means the number of entities required for explaining anything must be kept at minimum. If there are many ways to explain something, the easiest and straightest one should be preferred. If there are many roads to reach a specific point, the straightest one should be used. This principle was described by a mediaeval philosopher, Occam of Razor, and is still regarded a strong principle in all sciences. Why then is this principle forgotten when we find that the easiest way to describe the creation and evolution of the universe and intelligent life within it is to accept the presence of an All-Knowing, All-Powerful, Wise God.

The UTR and God

Though even based on the knowledge of the universe we have till this date, it is easier to accept than not accept God, the Universal theory of Relativity (UTR) presented by this author can prove to play a decisive role in arriving at the truth. The UTR says that the universe as a whole rotates on its axis. It is this rotation, which has led to the creation and sustenance of the universe, and is responsible for all the properties of the universe as a whole and as its parts. Now, the rotation requires regular supply of energy from outside. Thus the universe exists because it is rotating due to an incessant supply of energy from outside the universe, and would cease to function as soon as this supply is discontinued. As the supply of energy is stopped, the Uniglobe will stop rotating and all its components will lose their individual and collective properties. The universe will be dead. The rotation of the universe as a whole thus leads to two fundamental conclusions. First, if the Uniglobe is rotating, it must be rotating relative to a preferential frame of reference that surrounds it on all sides. Second, the universe is having an uninterrupted supply of energy from that external source. That external source can be none other than God.

The UTR completely and dramatically changes the relationship between the universe and God. While all the theories of Physics describe the parts of the universe, their properties, their motions, etc, the UTR in addition describes the universe as a whole (Uniglobe). The universe becomes an entity in itself, which can be seen separately from its components. Its relationship with the Creator becomes more profound and subtler. The universe does not merely remain a container of matrices and forces that it is, in accordance with the present theories, but becomes an existence in itself that bows to God, by rotating itself relative to Him, in response to the supply of provision to it. The universe and God become intimately connected. The former

becomes a well-organised state and the later its majestic king. The role of Creator is not limited to somehow cause the beginning of the universe or the Big Bang, after which the universe takes control of itself and the role of God ends forever. In the aftermath of the UTR, it can be seen that the role of God becomes permanent. It ceases not for an iota of time anywhere in the universe. He makes the universe rotate and creates it. He keeps rotating it by continuous supply of the provision for its existence. If the laws in the universe are regularly in force and the energy and mass retain their status, it is on the account of the continuous rotation of the universe at God's behest. Ultimately, He may choose the time of its death and preside over its demise by deciding to abruptly suspend or terminate the supply of energy causing the rotation of the universe to stop within no time. The universe will not die because the entropy would ultimately become universal, as demanded by the second law of thermodynamics. It will also not die because, due to long, continuous burning of fuel, stars will lose their lustre. Finally also not because, due to freezing of the planet, animals and planets including human beings will be deprived of the source of their life. The universe will take its last breath because God may decide enough is enough. He may think of replacing it with another kind of the universe with another set of laws and principles. Or He may want to resuscitate the world to see what they did in the previous world.

According to the current theories based mainly on General theory of Relativity, the universe even when it began had certain properties that were not well defined though, because they were infinite, mathematically. But the universe existed as a singularity, which had infinite mass-energy. How can it be called a non-existing universe? It was in fact existing from an infinite time. It can be argued that time did not start at the Big Bang but started its ticking in a way that it could then onwards be measured. The universe then existed at the singularity; the Big Bang only led to its huge expansion. That was no creation of the universe itself, but the beginning of the creation of the components of the universe. In a way, it can be said that the universe ceased to exist as a single body after the Big Bang, and instead transferred its life to its individual components. The Big Bang, in a way, was not the birth of the universe but its death. In the UTR instead, the universe had real birth, and the time had real beginning. The universe before had no structural or functional existence, and time had no existence at all. The process of the birth began as soon as the universe began to rotate. The process of creation of the universe had three main stages: Pre-(Big) Burst stage, Big Burst and Post-Burst stage. Pre-Burst stage can be regarded as the foetal stage, and at the Big-Burst, the universe was delivered. Then followed the growth of the universe.

It is interesting to see how the UTR blends physics and metaphysics together. It establishes a lasting, never-ending relation between God and the universe. God supplies the universe the provision for its existence and the universe thanks Him by rotating relative to Him, which is its bowing or prostration to God. The UTR has proposed that every particle tries to achieve the highest speed possible and goes towards the periphery of the universe; this speed is slowed by its own weight and the effect of the surroundings on it. Metaphysically, as soon as God started distributing the provision, all particles speeded to receive their shares, and thanked God by rotating individually and collectively relative to Him. It is this combination of providing by God and thanking by the creatures that sustains the universe.

What was the purpose of the creation? Why did God create the human being? These are questions that again lead to the overlapping of physics and metaphysics. Some take the existence of the human being as the sign of God, others the result of Strong Anthropic principle. The UTR takes this to new heights. Before the beginning of the rotation of the universe, God was alone. There was none to recognise Him, to describe His creative designs, His bounties and His powers. He made a plan so that he would be recognised. First he created the universe, which recognised Him by prostrating to Him and by following the Laws He decreed. Every single particle and portion of space would rotate with the rotation of the universe relative to Him, which in a way meant submitting to Him. Their submission, however, was of lesser quality, as they submitted not out of their free will but by their inherent nature. God's plan would ultimately lead to the creation of an intelligent being who would have the free will to submit or not submit to the commands of God. All the particles that formed man would still submit to the Creator by rotating along with the rotation of the universe, individually and collectively with its group.

But at the social and personal level, he would be free to work in accordance with the demands of God or those of his own wishes. This would give him a privileged position. He would be bestowed upon the intelligence to appreciate the beauty of the creation, to study how it works, to try to know how it was formed and to comprehend his own nature and his relationship with the universe and its creator. Thus the UTR would combine temporal with spiritual and physical with metaphysical.

Another interesting combination of physical and metaphysical is the fact that there is a relationship between God and the components of the universe based on the principle of collective existence. Atom has a nucleus at the centre, which can be described as the leader of the atomic world. The stars are the leaders of the stellar systems, and stars form galaxies, galaxies clusters and clusters super clusters. Superclusters or even larger structures like the proposed Megagalaxy form the universe. So every particle is submitting to the God individually as well as collectively in various groups. The Uniglobe submits to Him with all its constituents. God may choose in the next universe a principle by which every individual particle rotates separately relative to God.

God does not play dice nor He needs to be told what to do. He knows what He wants, and how this has to be done. He makes man exist. He provides him the means to survive-- to admire the beauty of His creation, to ponder over the mysteries of His Empire and to endeavour to know His Mind. God has programmed man's life but has given the keyboard and the mouse to him to let him function with sufficient freedom

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