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On the Implications of the Nature of the Universe

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Abstract

The nature of the Universe as being discrete is pushed to its limit. The acceptance of such discreteness leads to interesting conclusions about what God can and cannot do with such creation, which results in the surprising discovery that God cannot avoid some bad things or "evil" from happening. It also leads to troubling conclusions about the nature of free will.

Keywords: Universe, God, creation, destiny, evil, free will

1. Introduction

Does God exist? This is probably the first and most important question to ask. If we do not believe in God, there is no point or argument to be made in this paper. The question of whether or not God exist has been asked over and over again throughout the entire human history. In most ancient civilizations there were many Gods. Each God was assigned to any given important happening from Nature. This is simply the result of observing Nature and realizing that there are many things happening that are beyond human control or even understanding. It is quite possible that primitive civilizations were scared at Nature, when raining came or lighting stroke or thunder roared. At the same time it is possible they observed the stars, assigning some meaning to some of them in the form of constellations, and concluded that their positions were related to the seasons, which were very important because it allowed them to know when to hunt or, in the case of the first agricultural societies, when to seed the land and when to harvest. So it is quite natural to assume there are Gods up there and that their affairs are related to human activities (Sagan, 1997). It is only approximately two millennia ago that civilizations discarded the idea of many Gods and started believing in one God. Religion is simply the management of transcendental believes. From the shamans of the not so distant past to the priest of nowadays, there have always been people willing to harvest human fears, mostly of dying. It is precisely the fact of our mortality that demands answers. Where do we come from? Where are we going? Is there "life" beyond death? Is God concerned with our individual lives?

Throughout human history, many have come to believe in one God or in many Gods and recently, many have concluded that there is no need to believe in God. The latter is mostly due to the influence and generalization of science. Theologians have given a number of arguments in favor of God's existence. Scientists have their own arguments showing that God does not exist or at least that there is no need to believe in God. And of course, there are scientists who believe in God and philosophers who do not. However, conceptualizing God requires us to define God as an infinite entity (Wood, 2012). Generally speaking, it can be said that religion approaches reality from a perspective of faith, speaking of what is true because they believe in it. And to "show" proof they usually quote some sacred book such as the Bible, for example. Science approaches reality from the other point of view, showing (actually proving) what is not true, so that with enough trying, what is left must be the truth. However, in most cases, when science proofs something, it opens more questions than the ones it has answered. Nevertheless, their goal is the same, the pursuit of truth.

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I believe in God, and my "reason" is an argument of belief. Suppose there is a sequence of numbers. Such sequence begins with the number one. The very next number is one tenth of the previous number. In this case, that is 1/10 = 0.1. The next number is one tenth of the previous one, which is 1/100 = 0.01. Towards what number does it converge? The answer is zero, and it is expressed mathematically in equation (1).

$$\lim_{n \to \infty} \frac{1}{10^n} = 0 \qquad (1)$$

However, have you actually ever seen the last number of the sequence actually becoming zero? The answer is no. Then, how do you know it is zero? The answer is that it is possible to interpolate and imagine the trend in the sequence: 1, 0.1, 0.01, 0.001, and so on, so that at infinity the last number has an infinite number of zeroes, which makes it zero (Castro, 2013; Landini, 2011). It is possible to "feel" the answer. That is my "reason" for believing in God; because I can interpolate the existence of God by seeing God's creation. If human beings exist given our level of complexity, why cannot God exist having the complexity of all there is in and beyond our Universe?

2. Infinities

Clearly, believing in God requires thinking about infinity (Wood, 2012). The most commonly accepted theory for the beginning of the Universe in science is the theory of the "Big Bang". In this theory, the Universe is thought to be approximately fourteen or fifteen billion years (that is fourteen or fifteen thousand million years) of age (Sagan, 1980). And the Universe is thought to be expanding, such that at a given point in time in the past there was a "singularity", an infinitely dense point of space and time in which all the energy (matter could not exist at such temperatures) of the Universe was condensed. However, science can only peek within a given instant after the Universe was theoretically created in such singularity, because the known laws of Physics break down before this infinitesimal instant of time (Penrose, 2014). If the "Big Bang" theory is accepted despite its many varieties, it means that the age of the Universe is finite. Only regarding the Universe as finite allows for a reasonable discussion (Cariani, 2012). And since space and time have been expanding ever since, time and the Universe is finite (Hawking, 2002). Thus, the question remains. What is beyond the Universe? Some scientists say there is an infinite sequence of such finite Universes. That may be so. I believe that what is beyond our finite Universe is *nothing*. But what is *nothing*? How can *nothing* be conceptualized? If there is *nothing*, it means there is *nothing* to consider. Nothingness has no place to go, because it is everywhere. Thus, *nothing* is the same as *everything*, that is, God. The strict treatment of the concept *nothing* is quite tricky (Broitman, 2013).

3. A Discrete Universe

Is the Universe continuous in nature or discrete in nature? That is, is there a minimum or fixed limit to which matter (and energy) can be divided? Science offers many explanations to this and the common understanding is that matter (and energy) is quanta sized, that is, matter (and energy) come in fixed (and given) minimum lumps. But as have been previously seen, science always leaves more questions than answers when it attempts to prove something. Thus, let proceed with a thought experiment. Imagine there is one meter of distance between two people. The first such person, called "A", wants to touch the second such person, called "B". If "A" proceeds in trying to touch "B" by successively dividing by half the distance in order to reach "B", and if such distance is continuous, there would never be an end to this process, and so "A" could never reach "B". But it is common experience it is possible for everybody to "reach" things or other people. This is called Zeno's paradox, and it is further explored by Malcolm (2010). Nevertheless, the commonsense fact that in reality it is possible for "A" to actually reach "B" means that there is a limit to which such successive division of the distance can be taken. Thus, there is a discrete and finite minimum division of things so that Zeno's paradox cannot go on forever. That means that space is discrete in nature and since matter (and energy) occupy space, it also means they are discrete in nature. Consequently, space (and matter and energy) must come in discrete or fixed portions.

4. The Evolution of Matter and Energy in a Discrete Universe

Suppose for simplification purposes that from the beginning of space and time there were only two possible spaces for matter (or energy) to be in. Also, suppose there was only one particle of matter (or energy) in such imaginary Universe. At time one the particle could be in the "up" or the "down" position. So there are two possible Universes in this case, one in which the particle is "up" and one in which the particle is "down", that is $2^1 = 2$ combinations. At time two the particle could have been "up"-"up", "up"-"down", "down"-"up" or "down"-"down".

That is $2^2 = 4$ combinations. For n times, there are 2^n combinations, that is, 2^n possible ways in which such Universe could have evolved. Let now generalize to the entire known (and presumably finite and discrete, both in space and time) Universe. There are a huge number of possible spaces for matter (and energy) to be in. Also, there are a huge number of particles of matter or quanta of energy in the Universe. How many combinations or possible evolutions for the Universe there are? The answer: a huge number. But, this huge number is finite, not infinite. It is a given (and huge) number, but nonetheless finite number. The above means that God (assuming we believe in God) had, at the beginning of the Universe, to choose which evolution for the Universe to have. The fact that the total number of possible choices is finite means that God cannot do whatever wishes. God needs to choose one of the many possible evolutions for the Universe. Thus, God is constrained in choice by the very nature of our discrete (in both space and time) and finite Universe. That means that things are going to happen. Some things (and in most cases that is true) are going to be "good", but others are going to be "bad". This means that no matter how wise, caring and loving God may be, God cannot avoid some bad things (or "evil") from happening. This is because if God chooses another evolution for the Universe in order to avoid some "evil" in some place from happening, even more "evil" would occur in other places. Thus, we may choose to believe in heaven, hell, angels, demons, or the devil, but if we do so and we accept the previous reasoning, we have to accept that all of what exists and happens in the Universe is the result of God's best and most caring choice.

5. Discussion and Conclusion

Believing that God set in motion the evolution of the Universe for once and in a final decision at the Universe's creation also brings other troubling consequences. The most upsetting of them all is probably the belief in free will. If God set everything in motion, deciding at once what has happened, is happening and will happen, then the idea of destiny becomes quite clear and forthcoming. However, that means that each and every thing that has happened, is happening and will happen has been pre-determined by God. If we decide based on our thoughts and if our thoughts are the result of our mind, and if our mind is the outcome of our brains, and if such outcome depends solely on the functioning of our neurons, such functioning has been pre-determined by God. Thus, "our" choices are in fact God's choices at the moment of creation of the Universe. Consequently, our thoughts are the ultimate result of God's choice, which means there is no such thing as free will. In other words, free will is an illusion. Also, if we are not the masters of our own destiny, praying is useless. I am not saying that we should not pray. Praying allows us to meditate on the things that have happened and on the things we wish to happen. Thus, it is quite possible for us to find answers to our questions. But finding such answers and the fact that we are praying is something that has been previously decided by God. I understand this reasoning and the conclusions it brings about are troubling. Also, I am not saying I have the ultimate saying on this matter. Maybe I am missing some key point or argument, especially when it comes to the issue of free will. It is very difficult for me to say free will is an illusion, because I do not like the idea that I am not in control (at least in some degree) of my own future.

At the same time, seeing God's creation in this way is reassuring, because it apparently proves the reason for evil to exist. Some evil happens not because God does not care, or because God is not all loving, but because God had no other choice. So what happens when we die? Unfortunately, I do not have the answer to this question. What is the nature of consciousness? Do we have a soul or even a spirit? When it comes to the idea of soul or spirit, I like to think of it in this way. If my brain (which is certainly in connection with my soul and perhaps even my spirit, some scientist may call it mind) talks to someone else, the words travel through the air to reach the other person's ears, which in turn send the signal to the brain, which interprets what I am saying, and since the other person's brain is in contact with his or her soul and maybe even spirit, in this way, souls (and perhaps even spirits) connect to each other and communicate. When two people know each other for a long time, it can be said that their souls have communicated to each other so much that they are in contact with each other. Clearly, God is assumed to be infinite and God's creation, our Universe, is assumed to be finite, both in space and in time. Thus, in God's infinite mind it is easy to see all possible finite evolutions of our finite Universe. So even if there is an infinite number of finite Universes, God could have chosen to create some of these Universes and interpolate the remaining infinite number of other Universes lying in between, assuming such thing is possible. How could God have set the behavior of the elementary particles of matter or quanta of energy? The answer is irrational numbers.

This numbers go on and on forever without repeating themselves, which means it is possible for God to choose any given sequence at will in order to set things in motion. Also, there are algorithmic procedures for irrational numbers, so God can calculate any given sequence. For example, $\pi/4 = 1-1/3+1/5-1/7+1/9-1/11+1/13$ and so on. Nevertheless, if God had chosen the behavior of energy quanta and matter particles in this way, it is not possible to set things in motion for an indefinite amount of time. It is necessary for space and time to be finite, not just from an historical point of view, but also for their future behavior, that is, for the Universe to have a beginning and end.

References

Broitman, F. M. (2013). The Indefinite within Descartes' Mathematical Physics. EIDOS, 19, 106-121.

Cariani, P. (2012). Infinity and the Observer: Radical Constructivism and the Foundations of Mathematics. Constructivist Foundations, 7(2), 116-125.

Castro, E. (2013). Defending the Indispensability Argument: Atoms, Infinity and the Continuum.J Gen PhilosSci, 44, 41-61.

Hawking, S. (2002). El universo en una cáscara de nuez. Barcelona, España: Editorial Planeta.

Landini, G. (2011). Logicism and the Problem of Inifinity: The Number of Numbers. Philosophia Mathematica, III(9), 167-212.

Malcolm, W. (2010). Thinking about God and infinity: can mathematics contribute? Stimulus, 18(2),35-41.

Penrose, R. (2014). Ciclos del Tiempo: Una Extraordinaria Nueva Visión del Universo. México, D.F.: PenguinRandomHouse Grupo Editorial.

Sagan, C. (1980). Cosmos. Barcelona, España: Editorial Planeta.

Sagan, C. (1997). El mundo y sus demonios: La ciencia como una luz en la oscuridad. Barcelona, España: Editorial Planeta.

Wood, D. A. (2012).On the Implications of the Idea of Infinity for Postmodern Fundamental Theology.Pacifica, 25, 67-81.