

The new book of Stephen Hawking and Leonard Mlodinow, *The Great Design*, try to answer, with some sense of humor, the most difficult questions science, philosophy and religion have for centuries strived to answer: Why do we exist? Why is there something rather than nothing? And: Why these laws of physics and not others? For thousands of years to explain *how* things work was the field of science, but to speculate *why* the same universe exists was the field of philosophy and religion. The authors clarify—in order to avoid any confusion—that this book is a provocative text to challenge the present belief system of religion and philosophy. They explain: “To understand the universe at the deepest level, we need to know not only *how* the universe behaves, but *why*?” This means, they intend to explain, through the physical laws only, how the universe works and why. In this way they establish the supremacy of physics over all human knowledge, including philosophy and religion, even though they don’t admit they are doing that.

Ironically, the first sentence of their “Acknowledgments” says, “The universe has a design, and so does a book. But unlike the universe does not appear spontaneously from nothing.” This is because for the authors, *why* the universe exists is for this new idea: “spontaneous creation.” This is how they pretend to eradicate the idea of a god or a creator of the universe. *Spontaneous Creation* is a kind of new god, produced by the law of gravity. They use a metaphor to explain how universes can be created spontaneously. They ask the readers to look at boiling water and see how bubbles are formed spontaneously. Some of them collapse and never continue to exist, but others expand and exist. In the same way universes can be formed spontaneously.

Well, we can think, “Wait a minute. Before those bubbles formed existed water, a container, fire, and a boiling state.” But the authors dismiss this analysis. If something existed before the present universe was formed—that is before the Big Bang—is irrelevant, because time did not exist and nothing before that time can be demonstrated. The Big Bang is the origin of time and space, before that, no laws of physics can be applied, then nothing can be proved. In their opinion to try to speculate what happened before the Big Bang is unscientific; thus, there is no need to even think about it. This limitation has already been challenged in a critical academic paper by Roger Penrose and V.G. Gurzadyan. As a marginal comment, let me say that this new book is not as intense and interesting as the previous book of Prof. Hawking, *A Brief History of Time*.

According to Leonard Mlodinow and Stephen Hawking’s cosmology, God is not necessary to explain the Universe. Immediately we must then ask: 1) what universe?, and 2) what concept of God? We must assume that they are

speaking about the known physical universe, the one that can be explained with the present knowledge of physics. However, we know that the present understanding of the universe—even not considering the large amount of dark matter—is quite limited. We can speak at least of three concepts of God: one who created the universe with its laws, and retreated to his own realm outside the universe; a God who created the universe, but is still active in human history taking care of each individual; a God that created the universe and is the universe, and finally a universe which is an emanation of the One Self Sustaining Force. A universe that—more than a machine—resembles a mind or a beautiful work of art.

God cannot be objectified nor be considered ‘a-being’ among other beings and be part of an equation to demonstrate a thesis. There are other concepts like The God Within; The Last Ground of Being; The Good, the True and the Beautiful; Infinite Consciousness; the Great Becoming; or The God-in-the-Making, among others express dimensions larger than merely the creator of a physical universe. As it is very difficult to speak about love, pain or the sweetness of honey if they have not been experienced, how much more difficult is to speak about such ineffable concepts of God, if they have not been experienced!

Other aspects to consider are the paradigms with which the human mind works. We have to remember the old discussion between idealists and empiricists. Empiricists thought that only the evidence based on the senses can explain reality. Kant, who to put some balance, between empiricism and idealism, considered that empiric evidence is important; however the data is processed by certain thoughts or categories a-priori like time and space. The human mind works with categories, models, and paradigms, which exist before the evidence of the senses. All the data provided by the senses is going to be processed by those categories, and / or paradigms, that are going to organize and process the information in order to arrive at a conclusion. Hawking and Mlodinow incur in what I call the “professional deformity,” this means the common tendency to analyze and interpret reality according to certain professional formation only, ignoring all the other cognitive possibilities.

The authors are neither poets, musicians, painters nor sculptors. They do not think about the impossible beauty, nor speculate about love or compassion. Those are not topics that can be explained through the laws of physics. The pure rationality of their explanations seems logically convincing, but humanity already passed through the age of pure “reason.” The reaction against “the age of reason” was called Romanticism. The romantics, even today, never surrender the human spirit to reason, for the simple logic that “The heart has reasons that reason do not understand” as Pascal said centuries ago.

I agree with Prof. Stephen Hawking that there is no need to invoke God in order to explain what physics can explain. I agree with Hawking and Mlodinow that the Creator *they* had in mind, the one that carefully designed the Earth to please us human beings, ideally related to the sun and the stars does not exist. (What convinced Prof. Hawking that Newton's concept of God did not exist was a 1992 discovery that a planet was orbiting around another star like the sun. If there are other planets, worlds and possible other beings then an exclusive and special Creator of humans, animals, plants and the Earth to please and glorify us alone is not true.) There were people who believed in the Sun god, the Mother God, even those who believed in a special god for them: the *lares* and *penates*, however these beliefs have been abandoned many centuries ago and the "special" creator god mentioned by the authors never existed.

To exclude God from human life is not new. Siddhartha Gautama, the Buddha, more than 2500 years ago eliminated God from Hindu religion, because what matters—according to him—is compassion, love and tolerance. However, as his system was incomplete Buddha presented "Nirvana." Reading his definition of Nirvana, it can be considered another beautiful definition of God.

More than a century ago, Friedrich Nietzsche declared—in 1882—that God was dead and all humans were his murderers. In order to replace God, Nietzsche proposed a new ideal: "Superman." This new strong human being would leave behind the weak Christian individual, who was condemned by an original sin, alienated by fear of his own body and sexuality, dominated by values of pity, love and compassion, and the promise of an alternative panacea to the present life. In order to avoid man to be lost in a pathless universe, all values attributed to God will be attributed to this new ideal Superman and the world, both transcendent as eternal and divine. We all know from his own letters how Nietzsche ended his life as a sick mad man.

We also know what happened when Nietzsche's ideas were misinterpreted and transformed into an ideology of a superior race by the German Nazis' regime. It was used to persecute and exterminate Gypsies and Jews, Poles and Ukrainians, gays and disabled, Catholics and Protestants, including the Lutheran theologian Dietrich Bonhoeffer. As we can see, excluding God from human consciousness produced catastrophic consequences.

During the first decades of the 20th Century, Sigmund Freud considered that a belief in God was an illusion that educated men and women should abandon, because it belonged to the infancy of the human race. "A personal god was nothing more than an exalted father-figure: desire for such a deity sprang from infantile yearnings for a powerful, protective father, for justice and fairness and for life to go on forever. God is simply the projection of these desires," comments Karen Armstrong in *A History of God*. Freud recognized

the importance of this belief for a period of growth, but for and adult humanity was not needed anymore. In the future, *Science*, the new *logos*, will replace God and bring a new morality to face human fears.

What happened with science, the new *logos* that could replace God? After the Second World War, with the discovery and use of the atomic bomb, killing hundreds of thousands of human beings, left humanity under the constant fear of being exterminated. This generated a complete distrust in science and a nihilist morality. Well, the exact *logos* of trigonometry, financial equations or the theory of gravity cannot replace God.

Other psychologists like Alfred Adler, Carl Jung and Victor Frankl expressed a different point of view. Adler accepted that God was a projection but it had been helpful for humanity. In an interview, to the question if he believed in God, Carl Jung answered: "I do not have to believe. I *know!*" However, "Jung's continued faith suggests that a subjective God, mysteriously identified with the ground of being in the depth of the self, can survive psychoanalytic science in a way that a more personal, anthropomorphic deity who can indeed encourage perpetual immaturity may not" declared Karen Armstrong (*A History of God*, 357). Victor Frankl, who survived the Nazi concentration camps, spoke about the "subconscious" as the Ignored Presence of God, and how this Ignored Presence can give meaning to human existence, even to those who have to face imminent death.

Sir Isaac Newton maintained that the universe must have been designed by God because nothing can exist out of chaos. For Newton, there was a Creator. Hawking and Mlodinow's explanation is that something exists instead of nothing due to "Spontaneous creation" produced by the law of gravity. Is it possible to speak about the law of gravity without a universe? Is the law of gravity the creator of the universe? Can the universe be created *ex nihilo*? This already was problematic for the Jewish-Christian-Islamic thinkers: how out of nothing something can be created? This is like an act of magic. There is nothing. Suddenly or spontaneously, the magician is showing us a dove, or a scarf or an egg, or... the whole universe! Not explaining what produces "spontaneous creation" is much more problematic than to affirm that an entity could say "be the light and was the light". Stephen Hawking and Leonard Mlodinow say that God is not necessary to explain the Universe. However, as their system is incomplete, they introduce the idea of "Spontaneous creation," produced by the law of gravity. What they do not explain scientifically is what agent produces the elements to generate the spontaneous creation by the law of gravity. Something or many elements have to gravitate to a point to produce a Big Bang. And the constant poignant question: why? Not questioning what existed before the Big Bang, for them this event not only is the beginning of the present universe, it is also the end of logic and thinking.

So far, I don't know the specific concept of God both scientists had in mind, but we can infer that probably it was the same that an ancient Babylonian/Near East writer used and is included in the Biblical Genesis: a Creator of all that can be seen with a naked eye, around him on earth and in the sky. This was a restricted concept of a Creator that emerged to explain human existence to humans. It was a concept, which had at the center a restricted human being and its world. However as Joel Goldsmith says, "Just as we know that the sun, the moon and the stars are not God, so do we know that Jehovah God of wrath and vengeance is not God. The God of the Old Testament is not God: It is karmic law" (*The Thunder of Silence*, 23). An opinion that can be manifested about three thousand years after it was written.

Through "spontaneous creation" and the discovery of other planets orbiting other stars, Hawking and Mlodinow, apparently, are excluding the Calvinist concept of an external Father who predestined and prefers some because of his grace, and ignores or condemns the not chosen ones. In a way, the authors exclude the same concept of God that Sigmund Freud rejected: the one of the Torah, the punisher of some and benefactor of a few; the protector of some and the merciless exterminator of others. For many theologians, the God of the Old Testament is not an acceptable concept of the divinity.

In a way, Stephen Hawking and Leonard Mlodinow—together with other atheists and agnostics—help to change wrong concepts and focus the telescope and microscope of human wisdom to the right concepts. Some eminent physicists like Newton, Max Plank, E. Schrödinger, and even Einstein accepted concepts of a Deity different from those encapsulated in *sacred* texts. For example, Einstein's concept that 'God does not play dice with the universe' suggests that the creation is not all chaos, and the fact that there are laws, like those accepted by Hawking, confirms this. The universe is not the result of chaos. There are regularities, harmonies, and laws in the universe. These diverse concepts of God are not dead and are still valid.

Another old argument maintains that God cannot be known by the inductive logic based on the direct perception of the senses. "The scientists say there is no God because they are trying to understand by direct perception. But He is *adhoksaja*, 'unknowable by direct perception': therefore the scientists are ignorant of God because they are missing the method of knowing Him" (*The Science of Self-Realization*, A.C. Bhaktivedanta Swami Prabhupada, 217). All scientists start from one point, in this case a spontaneous point. But who is Mr. or Mrs. Spontaneous? We eliminate God and immediately we need to

create a replacement with another name. We go back to the old Vedic Hindu expression: There is only one truth; the sages gave it different names!

The beauty of science is that a few months after publishing of *The Great Design*, another great scientist: Roger Penrose, of Oxford University, with V.G. Gurzadyan submitted a paper in the middle of November of 2010, observing the seven years map of the Wilkinson Microwave Background Probe (A picture of the universe). They discovered some circles of very low energy suggesting they are the remnants of universes previous to the Big Bang. This means that we have to start thinking scientifically before the Big Bang to make meaning of what produced it. This contradicts Hawking and Mlodinow.

There are repercussions of Stephen Hawking and Leonard Mlodinow's comments on God: for non-believers and for religious people. Atheists who have been fighting against God due to the misuse of it, especially for religious wars consider that—after Darwin's theory of evolution—this is the final blow to a central human belief. For the representatives of diverse religions defending their ideas about a personal God acting in the human scene, this theory does not change their beliefs. Both groups seem to be entrenched in their own motivations. However, in both groups there is some stirring.

The approach of the book is not new, years ago in *A History of God*, Karen Armstrong wrote:

Those atheists who preached emancipation from a God who demands such servile obedience were protesting against an inadequate but unfortunately familiar image of God. Again, this was based on a conception of the divine that was too personalistic. It interpreted the scriptural image of God's judgment too literally and assumed that God was a sort of Big Brother in the sky. This image of the divine Tyrant imposing an alien law on his unwilling human servants has to go.

The anthropomorphic idea of God as Lawgiver and Ruler is not adequate to the temper of post-modernity.

We don't know if the concept of "spontaneous creation" is going to help bridge the unknown aspect of the origin of the universe. We doubt if this 'hypothetical' hypothesis is going to make any advance in science, or help a few or many people. What we know for sure is that through the ages diverse concepts of God, helped millions to give meaning to their existence, bridging the gap between their ignorance and the future.

Also, there is what can be considered the utilitarian concept of God. This aspect was manifested by Prof. Leuba and quoted by William James in his classic, *The Varieties of Religious Experience*, “The truth of the matter can be put” says Leuba, “in this way: *God is not known, he is not understood, he is used—*sometimes as meat-purveyor, sometime as moral support, sometime as friend, sometime as an object of love. If he proves himself useful, the religious consciousness asks for no more than that. Does God really exist? How does he exist? What is he? There are so many irrelevant questions.” The significant aspect for millions of individuals is the use they can get just to live or survive. We know that millions of people lived without knowing if the earth was round or flat; if Kepler’s laws existed or not, or if the theory of relativity was clear or obscure, but some concepts of God gave them faith to overcome many paradoxes and to make meaning in this world

This argument probably does not sound very “scientific” but, this practical aspect to help real people to go ahead in their lives, overcoming difficult challenges is not a small thing. Who cares if a specific idea of god is scientifically logical or not, if it helps people in their culture? For those who have nothing or lost everything, faith is the only thing left to them. At the same time it is possible to agree with atheists when they condemn the political or criminal use of the belief in a god to harm or destroy life.

Finally, each individual, spiritually, has his or her own way to connect to the inner self and be at peace with the whole universe. As in physics the speed of light is the constant to explain and give meaning to how things work, the divine is the constant and transcendent (doesn’t matter the name) law to keep the balance of humanity. This practical aspect is not a small thing. We can remember the large amount of research done on meditation and prayer and their effect on health. It has positive, a clear effect; Dr. Benson, of Harvard Medical School, discovered the importance of what he called *The Relaxation Response*. How patients can fight mentally, against difficult illness with this procedure, and have positive physical results. In his recent book *Spiritual Living*, Dr. Mohan K. Sood says: “It is not important if God is or is not but one needs a method to dissolve ego and realize the divinity within.” The divinity within is the core of each being ignored or recognized. Those who have applied and apply daily spiritual methods for healing and well being, God is not something to exclude from their lives.

Some additional ideas for a conclusion:

- 1) Reason and logic are not the only cognitive way to capture and explain reality. We have the *conscious* capacity to have illuminations, revelations,

intuitions, and mystic states, which are also states of knowledge. Interesting enough most of the scientific discoveries came as sparks through these less used cognitive capacities.

2) The old Judeo-Christian theology was useful for a vision limited to the human eyes, for a flat earth and a static universe. However, this is neither successful nor prepared for new scientific discoveries. The concept of God, external to its creation having man at the center and a universe around him does not exist.

3) The anthropomorphic (a Creator in the image of Man) concept of God is mockery. Freud referring to the concept of God in the Old Testament, called it, “An exalted father figure” which sprang from the infantile desire for a powerful protective father. Or as mentioned before, many theologians shared the idea that “The God of the Old Testament is not God.”

4) There are people who believe in God or that there is a God, however few experienced it. Joel Goldsmith comments, “Regardless of the fact the majority of people pay lip service to a belief in God, many of them do not believe in God... but have no faith, no realization, no conviction”. Mere belief or disbelief is nothing, what it is needed is the realization of God, the experience of God in daily life. Then as. ...Joseph Campbell once said, “I don’t need faith, I have experience!” Mere belief is not enough to understand and speak about God.

5) The concept that theologians like B. Spinoza who defined God equal to Nature is similar to the Hindu concept that the Creator and the creation are the same; in this sense, nature is in God, but God is more than all nature we perceive.

6) There are relevant concepts of the divinity more difficult to understand at popular level like the concept of God “in the doing” or a Re-doer, a Being that is born constantly anew as the Great Becoming. A God that is becoming each instant new, then Ineffable and Un-definable because it is impossible to define what is going to self-construct, build or create tomorrow, after tomorrow and so on eternally.

7) A very useful idea is the concept of God Within, the Supreme Being illuminating from within adopted by Emerson against the Calvinist external Father who predestined some to be saved as the chosen ones because of His grace and condemning all the rest.

8) Another important and valid concept coming from ancient times reflected by Greek philosophers among others was enunciated by Huston Smith for whom “God is the Good, the True and the Beautiful—and Power and Mystery, we should add—fused so completely that the five are not five but one.” (Encountering God, in *Handbook for the Spirit*).

9) The concept of God as the last Ground of Being and all that IS visible or not, maintained by Tillich and others, is not yet understood, not even by S. Hawking and L. Mlodinow.

10) To relate Deity to a beginning or a creation probably is not the best present conception and definition of what God is. My approach is that we have to change the vision to a Deity as Future and not as the origin of the past. The One, which is opening and expanding continually our dimension of Being and Consciousness.

11) God as Existence, as Infinite Spirit, as the Source of all, a Living Force (capable of producing among other things Spontaneous Creation), is a concept of deity still valid and useful.

12) For those who find comfort and strength in the divinity within (independent of the name) find impossible to dismiss the idea of a Supreme Force, or Total Being helping them.

We can continue adding more concepts of God, because as Huston Smith says, there are different ways to relate to God, because there are different human types. The Hindu doctrine is that there are four yogas, responding to four temperaments, which logically will approach God in different ways: the *jnanis* through knowledge; the *bhaktist* through love; the *karmic* through service; and the *rajic* through meditation. This means that each of us can have an approach to the universe very intimate: knowledge, love, meditation, or service. We can add some more, for those who connect to the universe through art can be *beauty*, the saints and mystics can have their own. What matters is that there a concept that agrees with each individual type and is completely effective for the inner happiness and well being. If the yoga of *knowledge* of “Spontaneous Creation” works for Prof. Hawking and Prof. Mlodinow blessed are they and those who can relate to it. I am happy for them. My disagreement on this topic does not diminish my admiration and respect for Prof. Hawking. He has been an example of endurance and triumph over exceptional challenges life presented to him as a human being.

There is a concept of God, which dies every minute, and a concept of the Living God, which emerges every minute. A concept of a God Within connecting to our inner self, and God Without connecting with the whole universe, is still alive, meaningful, powerful, and useful. We know that the name we call a friend can be quite different of the concept we have of him or her. The same is with the divinity. The name is not the same than the concept, if it works “Father,” “Divine Mother,” “Love,” “Allah,” “Divine Principle of the Universe,” “Tao,” “Spirit” or “Infinite Truth” to establish a connection to the transcendent and be healed, redeemed, harmonized or be completely happy that is what matters. I hope that each individual can have a transcendent-and-immanent concept that can be useful in each circumstance

in which it is needed, a moral principle bringing peace, understanding and wellbeing; an Absolute value, a kind of Gandhi's concept of Truth to live for.

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