

THE DIVERSITY OF SCIENCE: A PERSONAL VIEW OF THE SEARCH FOR GOD

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In one of his most famous works, [Contact](#), the American astronomer, astrophysicist and cosmologist Carl Sagan (1934-1996) speculates in the guise of a novel on what would be the possible social, economic, political, philosophical, scientific and theological repercussions of receiving an interstellar message from a civilization more advanced than ours and one that could be within reach of our terrestrial radio telescopes; with the subsequent plausibility of being decoded and translated. The protagonist of these events is astronomer Eleanor Arroway (inspired by astronomer [Jill Cornell Tarter](#), who worked for the Search for Extra Terrestrial Intelligence for more than 30 years), who in the novel directs the Argos project of SETI (a U.S. government project that still operates to this day).

The decoding and translation of the message, coming from the vicinity of the star Vega, in the constellation Lyra, shows it to be instructions for the construction of a Machine, a mechanism for the production of Einstein-Rosen bridges; that is to say, of wormholes or shortcuts through space-time, by means of which it is possible to displace matter and that would allow, for now only at a theoretical level, interstellar travel, by allowing us to travel the long distances of hundreds or thousands of light years in a matter of seconds, minutes or hours.

In Chapter 18, of the second part of the book, Eleanor (Ellie), along with four other scientists (Xi Qiaomu, Devi Sujavati, Abonneba Eda and Vasily Lunacharsky—in the [film adaptation](#) Ellie travels alone) is chosen for the preparations taking place at Hokkaido, Japan, where the Machine is located. In this context, Ellie and Eda have a spirited conversation on the subject that the Message and the manufacture of the Machine itself were bringing about a theological revolution in the whole world, since the atmosphere of a universal brotherhood was being experienced. In the meantime, Ellie (who throughout the novel makes clear her skeptical stance regarding the narrative of human religions) asks Eda if he has had any religious experience that led to an existential transformation, to which he replies that he has; and Ellie asks him to elaborate and explain when this happened. Eda replies as follows:

"When I first picked up Euclid. Also when I first understood Newtonian gravitation. And Maxwell's equations, and general relativity. And during my work on superunification. I have been fortunate enough to have had many religious experiences" ([Sagan](#), 386).

Ellie replies to Eda negatively that by religious experience she was not referring to the awe and amazement that can be experienced in any field, but to the strictly religious; that is, to something alien to the plane of science, to which Eda replies, never; and that his religious experiences had always taken

place in science. In all of Sagan's work, the limits between religion and science are blurred, awe and amazement that is common to both branches of human knowledge. This is the starting point of [another of his works](#), which is actually posthumous and the product of a compilation of his lectures at the Gifford Lectures on Natural Theology by Ann Druyan.

Regarding the relationship between religion and science, Sagan's opinion is that their goals are identical or almost so, and that in reality the disruptive issue has more to do with the reliability of the truths proclaimed by both fields and the respective methods of approaching them (Sagan, 2007: 24). And that one of the best ways he knows of experiencing the religious feeling, that is, the feeling of awe, is to look up on a clear night; and that this can be reflected in both science and religion, endorsing in turn Einstein's approach in his book, *The World as I See It* (1934), which is homologous in that sense: "I maintain that the cosmic religious feeling is the strongest and noblest motive for scientific research." Along that line, it would seem that religious sentiment would be clearly inevitable (Sagan, 2007: 50), similar to the position of the 18th century astronomer Edward Young who said: "An undevout astronomer is mad." But devotion to what, Sagan asks himself; and the answer cannot be other than to the Cosmos and its terrible and unfathomable immensity; it is a love informed by the truth (Sagan, 2007: 53). And if there is a Creator God of the traditional type, Sagan says, our curiosity and intelligence come from him, because it is his creation which is the source of such admiration, and if he does not exist, that curiosity and intelligence are essential tools to manage our survival in an extremely dangerous era (Sagan, 2007: 53). Without prejudice to this, he concludes in this part:

"In either case the enterprise of knowledge is consistent surely with science; it should be with religion, and it is essential for the welfare of the human species" (Sagan, 2007: 37).

Now, this part precisely connects with another chapter of the book entitled, "The God Hypothesis," within the framework of natural theology, which Sagan understands as theological knowledge that can be acquired only through reason, experience and experiment; not through revelation or mystical experience, but only through reason (Sagan, 2007: 167).

An interesting idea derived from the treatment of this hypothesis is related to the concept of God, and it is important in this regard to provide some ideas on our part prior to this, since there are those who claim that scientific praxis has nothing to do with the faith of the scientist; that they are separate issues. Now, some theoretical physicists give us another vision and interesting ideas in this regard, showing us the close relationship between scientific praxis as a way to the constant search for the big questions

that undoubtedly have a profound impact on the scientist's faith. And the problem lies in the way of asking and approaching the question, i.e., the question, "Does God exist" can only be approached after having answered a previous question: What do you understand by the idea of God? A position known as agnosticism. And this question is not confined to the Christian experience alone, and not even to that of all theistic religions, but is also proper to philosophy.

On the other hand, the efforts of many who consider themselves atheists, in focusing on delegitimizing aspects of the mythology of many religions (understanding the term "myth" in its positive sociological and theological sense as sacred traditional history, and not in its negative or pejorative sense as farce, invented history or deception), in order to delegitimize aspects of the mythology of many religions (understanding the term "myth" in its positive sociological and theological sense as sacred traditional history, and not in its negative or pejorative sense as farce, invented story or hoax), especially Christian mythology (Christian mythology or true Christian myth, i.e., traditional narratives as realities whose historical correlates and empirical-archaeological references that gave rise to them are susceptible—contingently—to be traced, to a greater or lesser extent), when it is not a sincere attitude of methodical doubt, it becomes an exercise of intellectual dishonesty or a lack of objectivity typical of arguments *ad ignorantiam*, by the simple fact of invisibilizing with the narrative of the anti-religious discourse, the question about which concept of God is compatible with scientific knowledge, and therefore the approach to a more complex reality that transcends even theoretical physics itself and that ends up delegitimizing any atheistic narrative (especially of the most radical sectors that cannot conceive the idea of God outside traditional religions), and in the following sense:

"Physicists who believe in this God, believe that the universe is very beautiful, that its absolute laws could not be an accident. The universe could have been totally random or composed of lifeless electrons and neutrinos, incapable of creating any kind of life, let alone intelligent life" (Kaku, 2008: 358).

It should be noted that the theoretical physicist Michio Kaku, when referring to the idea of God, does so in allusion to a creator God or a universal superior intelligence of order and design (2008: 87). In this regard, Sagan has something to say about the hypothesis of God as we have commented; he specifies that regarding the word "God" there is a series of hypotheses that is immense, from the one he considers naive, where God is presented to us as an immense man, light-skinned, with a long white beard, who sits on a big throne and keeps track of every dead sparrow, to the one he makes his own:

"Contrast this with a quite different vision of God, one proposed by Baruch Spinoza and by Albert Einstein.

And this second kind of god they called God in a very straightforward way. Einstein was constantly interpreting the world in terms of what God would or wouldn't do. But by God they meant something not very different from the sum total of the physical laws of the universe; that is, gravitation plus quantum mechanics plus grand unified field theories plus a few other things equaled God. And by that all they meant was that here were a set of exquisitely powerful physical principles that seemed to explain a great deal that was otherwise inexplicable about the universe. Laws of nature, as I have said earlier, that apply not just locally, not just in Glasgow, but far beyond: Edinburgh, Moscow, Peking, Mars, Alpha Centauri, the center of the Milky Way, and out by the most distant quasars known. That the same laws of physics apply everywhere is quite remarkable. Certainly that represents a power greater than any of us. It represents an unexpected regularity to the universe. It need not have been. It could have been that every province of the cosmos had its own laws of nature. It's not apparent from the start that the same laws have to apply everywhere. Now, it would be wholly foolish to deny the existence of laws of nature. And if that is what we are talking about when we say God, then no one can possibly be an atheist, or at least anyone who would profess atheism would have to give a coherent argument about why the laws of nature are inapplicable. I think he or she would be hard-pressed. So with this latter definition of God, we all believe in God" (Sagan: 109).

About God, as Sagan rightly says, there are hypotheses; each religion has its hypothesis and its vision of God, from anthropomorphic and zoomorphic approaches to God, to their replacement by the current monotheism, that which envisions God as omnipotent, omnipresent and omniscient. Now, I consider that the concept of God as Sagan puts it, should not be understood as something that aims to make science a new religion in the Comtian way or to scientify the current religions, but on the contrary, it is simply one more concept, within the wide range of possibilities that this idea generates, to be highly speculative (and as such the idea of God is expressed in its multiplicity of manifestations); a more materialistic conceptualization of God (which could be identified as pantheistic. However, if you read carefully, it is not saying that God and the material reality are the same; God and the existing totality, the Cosmos, are not said to be one and the same thing. But God is spoken of as a sum of very concrete questions, of the physical laws of the universe; a position closer to the deism that has been very characteristic of many scientists since the Copernican revolution), which can be in communion or not, be inclusive or not, be complementary or not, with the main dogmas of the institutional religions; its applicability to the gnoseological framework of each religion or vision of God being contingent. But what this materialistic conception of God is useful for us is to reaffirm the fact that there is no disruption between scientific praxis and the faith of the scientist (whether Christian or of any other religion, or receptive to the possibility as a hypothesis within a process of contingent conversion), that rather

instead rather than being disjunct issues, they are binding and feed back on each other.

It is worth concluding this paper with Sagan's impressions of traditions and institutional religions. On tradition Sagan spared no effort in affirming that tradition is something precious, a kind of synthesis of tens or hundreds of thousands of generations of humans. It is a gift from our ancestors; it being essential to remember that tradition is a human social construction whose objectives are perfectly pragmatic (Sagan, 2007: 209). But he also did not hesitate to affirm that while some traditions are maintained over time, others change and must change at the same speed as conditions do (Sagan, loc. cit.). Likewise, and regarding religions, although he does not hesitate to point out that religions have often served as a means for political authorities to maintain themselves in power, that is, as a means of social control, this does not mean that this is the only form of manifestation of religion in human history; there is a spurious component as well as a virtuous one; and his conclusion in this regard is clear:

"By no means does it follow that religions thereby have no function, or no benign function. They can provide in a very significant way, and without any mystical trappings, ethical standards for adults, stories for children, social organization for adolescents, ceremonials and rites of passage, history, literature, music, solace in time of bereavement, continuity with the past, and faith in the future. But there are many other things that they do not provide" (Sagan, 2007: 129).

Regarding this last quotation, our final comments are that religion as a social phenomenon—regardless of its gnoseological value—is a universal fact worthy of study; inasmuch as far from disappearing with the advent of scientific thought, it has been maintained and has merged with the culture of various peoples, forming part of their heritage and traditions. It is true that religion has had many forms of instrumentalization through human history (as has science), from a benevolent sense as the basis of a moral normative and an eschatology whose vision has had an impact on art, architecture and music (which in science is the improvement of the quality of life of all mankind), to a negative sense, (science was and is no stranger to it either, the victims of progress in experimentation with human beings, weapons technology with the capacity for the extermination of humanity, and new methods of digital slavery and social control through uncritical technophilias, such as transhumanism). However, to reduce the religious phenomenon to the exclusively negative (as well as the scientific), would be nothing more than a full reductionism and a sign of a very serious ignorance, which wrongly denies the role and social function that religion fulfilled in the past and today; facts that are evident when we approach the subject from the History of Religion, the Philosophy of Religion and the Sociology of Religion. Whoever calls himself a humanist and belittles the religious phenomenon as a whole, reduces himself to an anti-

humanist, because the origin and development of humanity (to varying degrees), has always been linked to metaphysical speculation (and science is no stranger to metaphysics either; but unlike religion, whose base is a spiritualist metaphysics, science has a base in a materialist metaphysics) and likewise its evolution is also presumed, along with the religious expression within it, part of the hermeneutic and cultural creativity of the peoples of the world.

Awe, astonishment and creativity are the common stromata between religion and science.

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[Featured](#): Folio from the Bible Historiale: Genesis 1, creation; God, creating heaven and earth, ca, 1411.

