

Humanity's Place in the Evolving Cosmos

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人類在進化宇宙中的地位

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[ABSTRACT] This article explores the cosmological constant problem and its anthropic interpretation. The search for the place of the human person in the evolving universe is a contemporary instance of the traditional problem concerning the relationship between faith and reason. If we say that in the human person the creative advance into novelty shows its utmost possibilities (until now), we move into the direction of a religious outlook at reality. Then, in fact, we see that the human and the universe are truly related. When we see the emergence of the human as the result of mere “chance and necessity” (as Jacques Monod would have it), then an atheistic outlook at reality seems unavoidable. Then there would be in fact no “alliance” (or reasonable relation) between man and the universe.

Introduction

The question that increasingly comes up in all discussions about religion and science is this: what is humanity's place in the developing universe? For some, life is little more than a bit of fungus on a lost planet and humanity means nothing in view of the entire cosmos reality. For others, humanity is the "crowning work" of creation. It looks as if we can look at the same reality (our being there in the cosmos) in two different ways. And that is indeed the case. We have to do here with a special case of "seeing as". Wittgenstein has developed the concept of "seeing as" towards the end of his *Philosophical Investigations*. What we see depends upon the way we interpret. He gives the example of the famous duck-rabbit picture (Jastrow). I think that this example can be very well applied to our situation in the cosmos. You can look at it in two totally different ways: either you "see" that the human person is nothing else than an evolved animal; or you can "see" that the coming to be of a being capable to being aware of its own being there is the most significant event in the whole cosmic evolution. We surmise that looking at "humanity's place" in the cosmos is very different, before and after Galileo and before and after Darwin, in the same way as you can see in the same picture either a rabbit or a duck. Note that there is no "true" way to see and interpret such an ambiguous picture. The two interpretations are indeed possible, and to a certain extent justified.

Everyone is in agreement: along the line of biological evolution the human is a late arrival. And yet the question remains: Is the human nothing more than a coincidental branch on the tree of life or is the human's being the "most significant event" in all of evolution?

Faith and Science: Two Different Ways of Looking at Reality

There are different ways to look at the relationship between science and meaning. And one has discovered this very gradually. In just about all pre-scientific cultures (i.e. before the 16th and 17th centuries) meaning is almost automatically religious. Faith and faith in the ultimate purpose of life fall practically together. Only gradually does a healthy differentiation arise between “faith” and “science.” This must not necessarily lead to an unhealthy separation as though the one had nothing to do with the other.

In the Middle Ages and long afterwards (up to Galileo) people looked to nature and to the Bible for answers to the same questions. Saint Bonaventure happily used the metaphor of the “two books”: the will of God can be discovered in the Bible, but also in nature. Galileo, however, pointed out that the Bible and natural science were concerned with two different questions: “how the heavens go” and “how to go to heaven.” This is an insightful distinction (that Galileo borrowed from his friend Baronnus). Unhappily enough, this has not always been understood properly. As a result of the enormous impact of the theory of evolution since the nineteenth century, faith and science have come to be seen as “enemies.” (cf. Andrew D. White, *A History of the Warfare of Science with Theology*, D. Appleton and Co, 1896).

Today the relationship between natural science and faith is no longer viewed as antithetical. Faith has certainly not disappeared because of the advances in the positive sciences. Each has something to say to the other. Indeed it involves “interplay.” Today we see much better that faith and science are two very different approaches to reality. And so we see that someone like Stephen Jay Gould can speak of NOMA (non-overlapping magisteria). Faith and science

have no reason to fear each other just because they seek an answer to different questions. The natural sciences (cosmology and biology) offer us information about how of the concrete coming to be of the universe (or better, of this “cosmic epoch”) and the beginning of life and humanity in this greater spatial reality. In the religious search for meaning in reality, one looks for the why of this immense (“marvelous”) event. This standpoint is not so different from Galileo's position. The question remains, however: how are the two approaches related?

In what follows I will argue for the “continuity thesis.” By that I mean the deep continuity between the grounding and structure of the cosmos and the emergence of life that culminates in a being with a complex brain structure. So, on the one hand I think that there is a deep connivance between the very structure of the universe and life; and on the other hand, given the good circumstances and enough time, more intricate (or complex) forms of life are probable. A very complex brain structure is a necessary requisite for reflective consciousness and what A. N. Whitehead calls: “the finer experiences of mankind”—the human openness to “the true, the good and the beautiful.”

Questions of Fact and Questions of Meaning

Thanks to contemporary science, we today can get in touch with the history of (this) cosmos. Anthropology, paleontology, biological-genesis and cosmological-genesis take us back farther and farther.

From a scientific standpoint (the how of the process that eventually resulted in humans) the beginning and the development of life is, according to scientists like Christian de Duve,¹ essentially a chemical event (i.e. the development of life is regulated by what we call natural laws). In this understanding there is no exceptional divine intervention necessary. There is no need to point to an improbable Coincidence or Chance either. That actually would mean that one would have to accept what Iris Fry refers to as a “lay miracle”.² Coincidences or Chance undoubtedly play some role in concrete evolution but occurs within a “Spielraum” that made possible and even probable the arrival of highly complex structures. In other words, it lies, given the nature of the Universe, in the line of what would be reasonably expected. That is the “objective” of the scientific side of the account of our being human.

The Question of Meaning

The manner in which we “see” the phenomenon of life on this planet—thanks to the positive sciences (cosmology, biology, paleontology)—determines the way in which we can speak today meaningfully about being human. Actually the fundamental question comes to this: What is the relationship between humanity and this fantastic evolutionary event; and what is its deep meaning, its significance? From the fact that the arrival of the human in this cosmos is not actually necessary (and in part can be due to chance occurrences) cannot mislead one into holding that human-being is without meaning (as Jacques Monod argues.) Quite the contrary.

¹ Christian de Duve, *Life Evolving. Molecules, Mind, and Meaning* (Oxford, New York : Oxford University Press, 2002).

² Iris Fry, *The Emergence of Life on Earth: A Historical and Scientific Overview* (London: Free Association Books, 2000).

That a being is capable of self-reflection about its own being, that a human can strive after truth, goodness, and beauty reveals something about the deep foundation of reality itself. The being of the human, with its various capabilities, is the most “significant” occurrence in all of evolution. The believer expresses this by saying “the human is made in the image and likeness of God.” In other words, what is revealed in the human person (the openness to truth, goodness and beauty) reveals as well the ultimate structure of “reality” itself. So there are today two totally distinct ways to “see” the place of the human person in the Universe: either you surmise that the human is nothing else than an evolved animal, and a pure product of chance and utterly meaningless, and then your overall view of Reality will be scientific materialism. Religion in such a context will not be something else than product of evolution, which allows a species which has developed it to be more successful, in the struggle for life. That is according to my understanding the contemporary face of atheism, broadly spread today by authors as R. Dawkins, D. Dennett and other “new atheists”. If you “see”, however, that what appears in the human being is significant to understand the Whole of Reality—as permeated by Logos and Consciousness—than the human is truly understood as made according to the image of the divine. In such a context a contemporary understanding of the divine can be elaborated. It goes without saying that even then very different ways to conceive of God remain open. How to conceive of God cannot be decided upon scientific grounds. Some “independent evidence” (Whitehead) is required.

In any case, the relationship between “God” and “world-and-humanity” ought not to be thought of as a relationship between Maker and the made but rather as a “Covenant” (*Une Nouvelle Alliance* as in the title of the book by Ilya Prigogine and

Isabelle Stengers La Nouvelle Alliance, Métamorphose de la science, Paris 1979).

“Covenant” is a typical biblical word and opens the way to a completely different manner of “seeing” the relationship between “God and world” than traditional creationist thought that is so marked by the image of the relationship between Maker and what is made (in fact a Deist understanding).

The Big Difference in Evolution since the Arrival of the Human is that the Human Takes Part in the Evolutionary Event

From this point on it is not just a natural process but also a cultural event. This implies that the human carries an enormous responsibility for the further existence of its own ecological “niche”. A very great problem is the “conflict of time frames:” Biological evolution takes into account millions of years. Within a few thousand years, the human being can bring about an irreversible destruction of our planet. All indicators point to the arrival of humans in this world as the most significant event in all of evolution; and it is in all likelihood the event that has the greatest impact on evolution. This places on human shoulders an enormous ethical responsibility. (See for instance: www.worldmeters.info/nl/)

In a recent book,³ Christian de Duve speaks about the “original sin” of evolution. There are apparently evolutionary mechanisms that make humans a very successful sort so that humanity expands in explosive fashion. Apparently however evolution has not promoted

³ Christian de Duve, *Génétique du péché originel. Le poids du passé sur l'avenir de la vie* (Paris: Odile Jacob, 2009).

wisdom. We need to fundamentally change our position over nature and the entire evolutionary process. Nature must be seen as much more than a source of goods and energy. The delicate (im)balance of nature is a task for which we ourselves are responsible. Maintaining “civilized life on earth” is a task that connects with all of our involvements with nature. Being-human is more than maintaining a relationship based on production and consumption. There must be space as well for wonder and respect.

All of our dealings with reality, also at the technological and commercial levels, must follow, on one hand, their own logic (and their own language); but, on the other hand, must remain open for the “finer experiences of humankind”: our openness to the true, the good and the beautiful. Those are the real fruits of the spirit.

A New Turn in the Road for the Relationship between Faith and Science: the Unfortunate Opposition between Chance and Design

The opposition between faith and science has pretty much subsided in the university landscape. Unfortunately there still are some remnants of this opposition in what is called “creationism” (i.e., in a too literal reading of the biblical creation narrative). Especially in the United States is this viewpoint especially strongly represented in groups of “evangelicals” (evangelical Protestants). A modern form of creationism is the thesis of “intelligent design.”

As John Cobb, Jr. observed: “we are confronted with two very bad choices”: chance and design are not opposites. Logically or structurally they are related to each other. Iris Fry says (correctly) that Chance is a kind of “lay miracle.” “Chance” (with capital C) and design mean implicitly that there is something from outside that

“intervenes” to make the coming of life and of humanity possible, or that the coming of life and of humanity a very high level chance event is that in no way lies within the line of expectations. This goes completely against the (here defended) continuity thesis. The two horns of the dilemma therefore are: On one side Chance or Design; and on the other side the arrival of life as the result of a complex interplay of physico-chemical events that comply with the intrinsic laws of nature.

The difficulty is that every way of speaking comes from a position of power. So often the acceptance of an evolving world image (in the lines of Darwin) is seen as writing-off religious meaning. So among people for example as J. Monod, Stephen Weinberg, and Richard Dawkins. A response to this “*discours*” from the religious side pointing to the insufficiencies of scientific explanations is yet another form of “power-talk”: evolution is then “seen” as a mistake and a deception. We need something more than science (which is correct except not when it comes to solving scientific problems). According to our understanding there is no longer an opposition between faith and science. There is tension between the faith perspective that has endured the confrontation with the insights of the positive sciences and the Enlightenment and the faith understanding that discards that tension and says it is correct to oppose scientific insights. This is all part of the posture that some people take against “modernity” (in which of course the positive sciences play an important role). As A.N. Whitehead says, the future of the planet will depend on the way in which various cultures handle the relationship between faith and science.

In conclusion, I would like to offer two quotations that interpret the tension between questions of fact and questions of meaning:

(1). “Whenever I listen to music, whenever I wander through an art gallery, whenever I let my eyes wander along the clear lines of a Gothic cathedral, whenever I read a poem or a scientific article, whenever I observe my grandchildren or whenever I simply reflect on the fact that I can do all of this, with the understanding of course that I can reflect on these things, then it is impossible for me to state that the universe, of which I am a part, were not obliged to be, by its very nature able somewhere and at some time, perhaps at various times and in various places, to bring forth beings that would be capable of accounting for the beauty of the universe, who would be capable of experiencing love, seeking truth and wondering at mystery. That being said, I belong to the category of the romanticists. So be it.”⁴

Why do you have to be a romanticist to hold that position? Romanticists, indeed, in reaction to the scientific materialism of their time, hold that there is a profound connivance between Nature and the human person

Another fine quotation that friends passed on to me some time ago, comes from Rabbi Bunan (as quoted by M. Buber):

(2). “A man should carry two stones in his pocket, One should be inscribed ‘I am but dust and ashes!’ On the other, ‘For my sake was the world created,’ and he should use each stone as he needs it (as quoted by Rabbi Bunan).” This citation shows so clearly that a scientific approach and a religious approach are very different. They don’t have to discount each other. But people do have to know—with wisdom—which language best fits which context.

⁴ Christian de Duve, “La vie est inscrite dans l’univers. Le savant s’interroge...et prend position,” in *La libre Belgique*, October 12, 1990.

[摘要] 即使當代，我們仍有一些傳統上遺留下來的問題需要處理，其一就是尋求人類在進化宇宙中的地位。這個例子涉及信仰與理性的關係。若然我們說在人類身上的創進的歷程成爲更新是展示人類至今爲止的無窮可能性，那末我們就會進入宗教的角度看現世。我們亦因而覺察人類與宇宙是確切地有聯繫。然而，當我們認爲人類的出現只不過是因爲「機會與需要」（如 Jacques Monod 認爲）時，似乎不能避免以一個無神論觀點看現世。這樣，人類跟宇宙將不會有任何合理的關係，更談不上可以成爲「聯盟」。