

Theological Aspects of the Cosmological Anthropic Principles

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Abstract

Regarding the Cosmological Anthropic Principles (WAP, SAP, PAP, FAP) theologians may find a good opportunity to argue for divine creation. Nevertheless, from the methodological and cosmological point of views, none of the Anthropic Principles implies logically creation as the origin of our universe.

Instead of a shallow ignorance or invigorating of Anthropic Principles I would like to point to the fact how these cosmological considerations can have an effect on current theological views. Thinking about the relationship of theology and Cosmological Anthropic Principles we should allow for the mechanism of decision-making and the existential status, because the common field of science and theology is not only the domain of the different interpretations of creation or of other theorems about the origin of our world. Moreover, the basic Anthropic Principles do not settle answers, rather, they polarise with questions like “how and why we are living beings in this universe.” In this paper I would like to focus on some theological points brought about by Anthropic Principles.

The Strong Anthropic Principle implies a non-scientific decision between two possible images of the origin of our world. The first option is a belief in God, who created our world, while the second option is a religiously neutral assumption that our world accidentally evolved from a big set of many possible worlds. Obviously, Christian theology supports the first theory. Although, an argument for divine creation connected to the Anthropic Principles, inevitably means a deep personal commitment. This commitment regards not only the existence of God, but it consistently defines the personal approach to a few fundamental issues. Namely, if someone takes the Anthropic Principles seriously, then the conclusions of this decision surely shape his or her view of life or environment or of the beginning of the world.

First, there is no compelling scientific reason to believe in a world-creator God, but if someone asserts that the world is designed by a supreme power and that this world is fitting in to human existence, then it means an existential decision refusing the eventuality of the world which we are living in. This decision is similar to the confession of Israel, formulated at the time of the Babylonian exile written in the story of Genesis.

Second, the Anthropic Principles raise the question of the position of human existence in the order of nature and also the problem of providence. It is significant when we are thinking about our responsibility for the other living beings and nature. According to the logic of the Anthropic Principles, we could formulate an “Animal Principle” or a “Stone Principle”, substituting the “anthropos” for any existing thing. The Final Anthropic Principle can demonstrate an extreme negligent attitude of human thinking.

Thirdly, these principles can join to Christology, since God not merely created this world for people, but also lived through it as a man. According to Paul, Jesus Christ is the Son

of God, and “all things were created through him and for him.” (Col. 1:16) This “for him” may indicate a Christological Anthropic Principle.

Biography

Tamás Kodácsy was born in 1975, Hungary. He graduated in 2000 as reformed pastor, and in 2001 as programmer mathematician at Debrecen University. From 2000 he is assistant lecturer at the Department of Christian Dogmatics at Debrecen University of Reformed Theology. He studied science and theology in Zürich, 2001-2002. He has been teaching Reformed confessions, early christian doctrines, and about issues on the field of science and theology, systematic theology and cosmology. His topic of PhD studies is the Cosmological Anthropic Principles. Kodacsy chairs a Local Society, the Science and Theology Centre in Debrecen.

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The question of the anthropic principles is a well-known and overexposed topic, thus the readers can be indeed doubtful about the relevance and actuality of this presentation. However, let it be reassured, that the presenter himself shares in this scepticism, as well. I think that up to now more articles and books has been risen regarding to anthropic principles, than the scientific significance of these considerations would imply this multitude of reflections on this theme. Perhaps the popularity of the anthropic principles derives from the fact, that a compact statement is expressed in the sphere of cosmology that is easy to understand, and is useful for various fields. On the one hand, high-level physics and cosmology lay behind anthropic principles, while on the other hand, the formulation of principles are quite simply and comprehensible for the public. This easy understanding implies that the anthropic principles became a „grateful” and popular question in the yield of interest of natural scientists, philosophers and theologians.

Anthropic principles can be formulated in several way, as it appears in five versions given by Barrow and Tripler.¹ These anthropic considerations provide new ideas and fantasies for scholars articulating them in the field of biology,² biochemistry,³ philosophy⁴ and theology.⁵ At first sight it seems that anthropic principles provide a methodological reduction of the theories about the origin of the world. Namely, we have to take into consideration the very fact that we are living and thinking in the world, and in the same time, this world is the object of our theories. We could not build such theories that cannot allow our existence – *cogito ergo mundus talis est*. Anthropic principles reduce the possible cosmological ideas to the ideas that allow our existence. However,

¹ J.D. Barrow – F.J. Tripler: *The Anthropic Cosmological Principle*, Oxford University Press 1996. [Barrow-Tripler], pp. 15-26.

² See the following articles: A.P. Akifiev, S.V. Degtyarev: *Anthropic Principle in biology and radiation biology*, *Radiatsionnaya Biologiya Radioekologiya*, vol.39. no.1. p.5-9.; B.Carter: *The anthropic principle and its implications for biological evolution*, *Philosophical Transactions of the Royal Society of London A (Mathematical and Physical Sciences)*, vol. 310. no.1512. 1983. p. 347-363.

³ Barrow-Tripler, p. 510-575. (*The anthropic principle and biochemistry*)

⁴ See the following articles: W.L. Craig: *The teleological argument and the anthropic principle*, in: *The logic of rational theism: exploratory essays*, Lewiston New York, 1990.; M. George-W. Murray: *A New Look at the Anthropic Principle: A Critical Study of Cosmos and Anthropos: A Philosophical Interpretation of the Anthropic Cosmological Principle*. Reason papers 1994. 19. p.132-145.; G. Schlesinger: *The Sweep of Probability*, Notre-Dame University 1991.; P. Wilson: *What is the Explanandum of the Anthropic Principle?* *American Philosophical Quarterly*. 1991. p. 167-173.; J. Zycinski: *The anthropic principle and teleological interpretations of nature*. *Review of Metaphysics*, 1987. 41. p. 317-333.

⁵ See the following articles: G.F.R. Ellis: *The theology of the anthropic principle*, in: *Quantum Cosmology and The Laws of Nature*, Vatican Observatory Pub. 1993. p.367-405.; L. Troster: *The love of God and the anthropic principle*, in: *Conservative Judaism* 40 1988. p. 43-51.

despite of the aim of this reduction, the popularity of anthropic principles has invigorated more and more people to think about the origin of our world.

The pathos of anthropic principle can grasp anyone, and we can feel ourselves in the heavens with full of the cosmological ideas of the universe. But there, we should remind the words of psalmist, „If I ascend to heaven, thou art there, God!”⁶ – and we immediately realise, what small potatoes we are. Anthropic principles have wings to lift us and take us back to the beginning of our world, and also have legs holding us in the present and in our recent existence. This duality is the skeleton of my understanding of anthropic principles.

Anthropic Definitions

According to Barrow and Tripler, now I would like to focus on two anthropic definitions, namely the Weak Anthropic Principle and the Strong Anthropic Principle.

Weak Anthropic Principle (WAP): The observed values of all physical and cosmological quantities are not equally probable but they take on values restricted by the requirement that there exist sites where carbon-based life can evolve and by the requirement that the Universe be old enough for it to have already done so.

Strong Anthropic Principle (SAP): There exists one possible Universe ‘designed’ with the goal of generating and sustaining ‘observers’. Or in other version: An ensemble of other different universes is necessary for the existence of our Universe.

The main difference between WAP and SAP are the words „can evolve” and „is necessary”, namely is the possibility and necessity of the universe where human life can exist. The SAP implies a non-scientific decision between two possible images of the origin of our world. The next story (there are a lot of inventive stories) demonstrates the two different concepts.

„You know that a lake’s impenetrably cloudy waters contained a fish 23.2576 inches long, for you have just caught the fish in question. Does this fact about the lake stand in specially strong need of explanation? Of course not, you tend to think. Every fish must have some length! Yet you next discover that your fishing apparatus could accept only fish of this length, plus or minus one part of million. Competing theories spring to mind: the first, that there are millions of differently lengthed fish in the lake, your apparatus having in the end found one fitting its requirements; and the second, that there is just the one fish, created by someone wishing to give you a fish supper. Either explanation will serve; and so for that matter will the explanation that the well wisher created so many fish of different lengths that there would be sure to be one which you could catch. (God and Multiple Worlds are far from being flatly incompatible.) In contrast, *that the one*

and only fish in the lake just happened to be of exactly the right length is a suggestion to be rejected at once. Similarly with the suggestion *that the lake contains many fish, all of a length which just happens to be the right one.*⁷

The first option is a belief in a Fine-Tuner, a God, who created our world, while the second option is a religiously neutral assumption that our world accidentally evolved from a big set of many possible worlds. The fact is really astonishing, that we caught the fish, or we won in the lottery, we are living in this world, even if we do not want to take notice of it. A necessary explanation task of SAP give us a lesson to build divine design or multiple universe theories.

In the history of anthropic principles, one of the main debating point is the reason of SAP, whether the origin of our world can be explained by divine design or the multiple worlds theory.

Divine Design and Creation

Obviously, Christian theology supports the first theory. Although, an argument for divine creation connected to anthropic principles, inevitably means a deep personal commitment. Why someone chooses the divine design argument to explain our existence? Because there is no scientific standpoint in this question by the recent state of cosmology, the answer is rooted in the responder's situation, thinking and existence. The responder can live in a world, which is randomly evolved from a multitude of universes, or can live in a world, which is designed for the human life. The answer indicates what existence means for the responder, it can be a purposeful being given by a certain designer or design principle, or it can be an indifferent being in an uncertain world.

Asserting the divine design is a commitment regards not necessarily to the existence of God, but it consistently defines the personal approach to a few fundamental issues. Namely, if someone takes anthropic principles seriously, then the conclusions of this decision surely shape his or her view of life or environment or of the beginning of the world.

From the theological point of view, I think the problem with the debating of divine design and multiple worlds is the temptation of a scientific proof of the existence of God. Regarding the anthropic principles theologians may find a good opportunity to argue for divine creation, even if none of the anthropic principles implies logically the creation as the origin of our universe.

Nevertheless, I would beware of the easy solution that we should force the divine creation by the obligate polarisation of SAP. I think that argument of divine design emerged from SAP is not

⁶ Psalm 139:8.

⁷ J. Leslie: *Universes*, Routledge London and New York 1989. [Leslie], p. 9.

equal with divine creation expressed by Christian confessions. I am afraid that a „right” choice of design argument to explain why we are here in the universe, would not directly lead the person to the God as Creator of the world.

The opaque motivation of the human who decided that divine design is the origin of the universe, is necessarily involves existential elements, because this decision is not only about the origin of a universe, but is about the origin of our universe, where the inhabitants may live from an outcome of a chance or a will. Is the existential motivation in the decision of divine design identical with a motivation to admit God as Creator of our world? Probably not, for the structure of the two conceptions are different. In the arguing for divine design the person recognises that the world created for the mankind, but in the confession of God as Creator the human recognises that God first created the person, and after created the world for the mankind.

W.L. Craig says that „the Anthropic Principle notwithstanding, I see no reason why a careful thinker may not, on the basis of the teleological argument, rationally infer the existence of a supernatural intelligence which designed the universe.”⁸ But can this supernatural intelligence which designed the universe be identical with Christian God who created and redeemed the world? Of course, I admit that the divine argument can help to liberate the thinker for the fear that creation is a superstition – and this is the greatest advance of anthropic principles, but we cannot say that the supernatural intelligence argued, discovered and expressed by our investigation is same with God of the Bible. It is a notorious Christian deception when we think that our image of God is God, and it often happens that we paint this image of God from the *terra incognita*. „An especially weak and disgusting form of apologetics used the *argumentum ex ignorantia*; that is, it tried to discover gaps in our scientific and historical knowledge in order to find a place for God and his actions within an otherwise completely calculable and »immanent« world. Whenever our knowledge advanced, another defense position had to be given up; but eager apologetes were not dissuaded by this continuous retreat from finding in the most recent developments of physics and historiography new occasions to establish God’s activity in new gaps of scientific knowledge. This undignified procedure has discredited everything which is called »apologetics«.”⁹

⁸ W.L. Craig: Barrow and Tripler on the Anthropic Principle vs. Divine Design, *British Journal for the Philosophy of Science*, 1988. p. 389-395.

⁹ Paul Tillich: *Systematic Theology*, The University of Chicago Press 1951. vol 1. p. 6.

Bounds of the Anthropic Principles

The most common critique of the anthropic principle is that these principles are no more than tautologies. Like the „variant points to the Mississippi. See how wonderfully it threads its way under every bridge!”¹⁰ To me, this kind of critique is very useful to free us from our illusions. Nevertheless, even if the anthropic principle is tautology, it is a very surprising tautology. We cannot neglect the fact that there are bridges on the Mississippi and also the existence of us which claims for explanation.

Furthermore, anthropic principles are quite daring in respect of the gigantic subject of the principles. We are formulating something about the universe scientifically, though the astronomical equations are able to be tested only in the area of the solar system. When we are using principles which are concerning the whole universe and going back 13 billion years in time, then a few humbleness and sobriety would be useful for the thinker. The enthusiastic and unguarded use of the anthropic principles remind me a joke when an elephant and a mouse are walking together on a footbridge. The mouse looks up to the elephant and asks: „Are we clunking, aren't we?”

Anthropic principles are based on the evidence of fine tuning of our universe. It means that „our universe does seem remarkably tuned to Life's needs. Small changes in the strengths of its main forces, in the masses of its particles, in its degree of turbulence, in its early expansion speed, and so forth would seemingly have rendered it hostile to living beings of any plausible kind. It risked recollapse within a fraction of a second, or becoming a universe of black holes, or a universe of matter much too dilute to form stars and planets, or even one composed of light rays alone.”¹¹ J. Leslie enumerates eight main points, where the fine tuning of physical and cosmological phenomena are noticeable, namely he refers to the Smoothness Problem, the Flatness Problem, the Inflation, the nuclear weak force, the nuclear strong force, the strength of electromagnetism, the strength of gravity, and the particle masses.¹² In addition, scientists have investigated more evidences for the fine tuning of the universe, as they analysed the consequences of absence of

¹⁰ Leslie, p. 19.

¹¹ Leslie, p. 25.

¹² Leslie, p. 3-6.

planet Jupiter¹³, the feature of solar neutrino fluxes,¹⁴ or the existence of an excited state of C-12¹⁵.

Are the physical constants and phenomena really fine tuned? Or are there still unknown physical laws behind the supposed fine tuned quantities? The fine tuned quantities are not the products of a fine-tuner or of chance, but well-defined elements of the laws of nature. Certainly, there are well-known laws and inferences behind the phenomena of fine tuning, but these laws can give cause for the fine tuning of the structure of the universe. We should not repeat the mistake mentioned below that the progression of natural science determines the creation activity of our Fine Tuner.

Behind the scenes there lays a serious dilemma in the dialogue between science and theology. What was the first: the laws of nature without matter or the matter itself without laws? More precisely, the disputable point is the conviction that presumes a principle or law which determines the events and occurrences of the universe. This conviction can be realized in several ways, as the principle can be recognisable (rationalism), or can be personifiable (like the incarnated λόγος in Christian theology), or can be inflexible (determinism).

Is there a „Plank Era” in Theology too?

From the side of cosmology, the primacy of the laws of nature is an open question, for we have only hypotheses on the first 10^{-43} second (Plank Era). The relationship of energy, matter, and laws of physics is quite mysterious in this primeval history of our universe. Usually in this kind of case, theology or philosophy empower themselves to be able to answer this remained question. In my opinion the best what theology could do in this dialogue, is to introduce the theological dispute concerning this question and not to give an arbitrary answer. Because theology had disputes about something similar, not about the first time, but the first letter of the Bible which could be in parallel to the Plank Era in cosmology.

It is commonly known, that there are two narratives¹⁶ of creation on the first pages of Genesis. In spite of the fact that there are obvious differences between the order of creation and phrasing of

¹³ Wetherill, G.W. Possible consequences of absence of „Jupiters” in planetary system, *Astrophysics and Space Science*, vol.212. no.1-2. 1994. p. 23-32.

¹⁴ L. Paldi: Solar neutrino fluxes and anthropic principle, *Proceedings of the 2nd Tallin Symposium on Neutrino Physics*. Inst. Phys. Estonian Acad. Sci. Tartu, 1994. p. 189-194.

¹⁵ M. Livio -D. Hollowell -A.Weiss -J.W. Truran: The anthropic significance of the existence of an excited state of ¹²C, *Nature* vol. 340. no. 6321, p. 281-284.

¹⁶ The first account is from Genesis. 1:1 to Genesis. 2:4a is called Priestly document, and the creation story of creation, Genesis 2:4b to 2:25 is called Yahwist document.

two accounts, most of theologians agree that these stories can complete each other, while these are written from two different points of view.

Beyond the two different stories of the creation in the Bible, there is another possible difference in the interpretation of creation depending on the reading of the first word בְּרֵאשִׁית „*b'resith*”. The interpretation of *dagesh* point in the middle of the first letter *beth* determines two views of creation. On the one hand, if this *dagesh* is an assimilated *he*, that is a definite article, then the beginning will be an abstract concept. On the other hand, this *dagesh* may be a common grammatical sign in the first letter of *b'resith*, as it occurs in other passages in the Old Testament.¹⁷ In this second case, *b'resith* is a part of a genitivus without stressed meaning. In other words, the first sentences of Genesis can be translated in two ways. The first version is used in most Bible translation:

In the beginning God created the heavens and the earth. The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters. And God said, „Let there be light”; and there was light.

In the second version, the first and second verses are subordinated clauses of the third verse:

At the beginning of God's creation of the heavens and the earth, when the earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters, then God said, „Let there be light”; and there was light.

The first version was more supported by Christian scholars, especially by Augustine, because the second version implies a pre-existent and formless earth at the beginning. This risky consequence involves two important dangers. In the first place, if there is something out of God, which is pre-existent and not created, then this must be same eternal as God is. It leads to a dualism, which contradicts to the message of the Bible.¹⁸ In the second place, the idea that God formed or created the world from this pre-existent matter is inconsistent with the doctrine of *creatio ex nihilo*. Ignoring of *creatio ex nihilo*, Christian religion would be pantheist or dualist as with the previous case.

This possible disjunction is significant regarding the anthropic principles. There are two facilities to translate and interpret the first verses of Genesis, but the decision between these two versions

¹⁷ In Jer. 26:1. בְּרֵאשִׁית מִמְּלֶכֶת יְהוֹיָכִים „At the beginning of the reign of King Jehoiakim” and the same form in Jer. 27:1, Jer. 28:1, Jer. 49:1. Rashi argued for this interpretation of *b'resith*, and he cited also Hos. 2:1 and Gen. 10:10 in his commentary to Genesis.

¹⁸ For example, the satanism is rooted in dualism, when the people think that „the other eternal power” has to be honored.

implies a cosmological decision regarding the laws of nature, the primeval matter or the creation. The idea that first God created the laws of nature, is supported by the second version, because the first act of God is the creation of the light, which determines everything on the world. According to the former version, first God created heavens and earth, and after that He determined the laws of the creatures.

Decision Making in The Anthropic Principles

In my opinion, the need for decision is more important in the anthropic principles than the result of the decision. Thinking about the relationship of theology and anthropic principles we should allow for the mechanism of decision-making and the existential status, because the common field of science and theology is not only the domain of the different interpretations of creation or of other theorems about the origin of our world. Moreover, the anthropic principles are not settler answers, rather, they are polarising questions like „how and why we are living in this universe.”

Instead of a shallow ignorance or invigorating of anthropic principles I would like to point to the fact how these cosmological considerations can have an effect on current theological views.

The Effect of The Babylonian Exile to the Confession of God the Creator

According to most Old Testament scholars, the first creation account, Genesis. 1:1 to Genesis. 2:4a, was written during the Jews' Babylonian captivity. This fully developed story explains creation in terms of ancient near eastern world-view of its time. The context of the phrasing of creation is well characterized by the psalmist who wrote: „By the waters of Babylon, there we sat down and wept, when we remembered Zion.”¹⁹ Where is His holy temple where Israel could pray to God? Where is God who brought His nation out of the land of Egypt, out of the house of bondage?²⁰ The temple was destroyed, and the covenant of God seemed to be changed as Israel did not have its freedom and kingdom in the exile. By the waters of Babylon, the relationship of God and individuals had become more essential than a pre-exile vision of God as God of the nation.²¹ For example, this relationship between God and individuals put question to people, such as the being after death or the events in eschatology.²²

¹⁹ Psalm 137:1.

²⁰ Exodus 20:1.

²¹ The biblical narrations of the babylonian excile focused on the individuals rather than on the whole nation, see the stories of Daniel and his friends (Dan.).

²² W. Schmithals: Death, in: The New International Dictionary of New Testament Vol. 1. ed. C. Brown, Paternoster Press 1992. p. 433-434.

The gap between the waters of Babylon and the occupied land of Canaan was so deep, that the people of Israel had to reformulate their relationship to God and their identity, because the image of God dwelling in His Temple was not relevant any more. In this situation God as Creator of the world is not a scientific *prima causa*, or a supranatural intelligence, but God is an Almighty Father who created and redeemed humans. The point of the words of Psalm 8 is not the existence of heavens, moon and stars, but the providence of God: „When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained; What is man, that thou art mindful of him? And the son of man, that thou visitest him?“²³ The point of the creation is well expressed by I.U. Dalferth, as he says that the „talk of creation is not primarily talk about the world, but about the creative activity of God.“²⁴

„Faith in creation is neither the position nor the goal of the declaration in Genesis chapters 1. and 2. Rather, the position of both the Yahwist and the Priestly document is basically faith in salvation and election. They undergird this faith by the testimony that this Yahweh, who made a covenant with Abraham at Sinai, is also the creator of the world. With all its astonishing concentration, therefore, on the individual objects of its faith in creation, this preface has only ancillary function. It points the course that God took with the world until he called Abraham and formed the community; and it does this in such a way that Israel looked back in faith from her own election to the creation of the world, and from there drew the line to herself from the outermost limit of the protological to the center of the soteriological.“²⁵

There is no compelling scientific reason to believe in a world-creator God, but if someone asserts that the world is designed by a supreme power and that this world is fitting in to human existence, then it means an existential decision refusing the eventuality of the world which we are living in. This decision is similar to the confession of Israel, formulated at the time of the Babylonian exile. „To recognize the world as creation does not therefore start from observation about the world or explanation of it, but recognition of self, from that self-recognition that is mediated by the recognition of the will of God. Statements about creation always take the form, I am a creature, and always have the correlate God is my creator, who is in specific engagement with me. Certainly, God could not be my creator were he not also the creator of all others. But this universal dimension of the doctrine of creation is secondary. Only he who knows himself to be before God as creature can perceive the rest of the world as creation and find thousand-fold evidence for this. No piece of evidence or experiential phenomenon of itself witnesses to the

²³ Psalm 8:3-4.

²⁴ I.U. Dalferth: *Creation – Style of The World*, International Journal of Systematic Theology [Dalferth], p. 129.

²⁵ G. von Raad: *Genesis: a commentary*, trans. by John H. Marks, SCM Press London, 1961. p. 44.

world as creation. No-one who does not have this knowledge of himself as creature will perceive them as evidence of the creation of God.”²⁶ This approach to creation is familiar to the Participatory Anthropic Principle (PAP), which belongs to SAP: „Observers are necessary to bring the Universe into being.”²⁷

Christological overview

The Anthropic Principles raise the question of the position of human existence in the order of nature and also the problem of providence. It is significant what we are thinking about our responsibility for other living beings and also for nature. According to the logic of the anthropic principles, we could formulate an „animal principle” or a „stone principle”, substituting the *ἄνθρωπος* for any existing thing.

But the theological view is anthropocentric and geocentric, since God created the heavens and earth, henceforth the following events happen in the earth. The earth will be the very place where God who created the world, came and was incarnated in Jesus Christ. The uncreated became a creature. The christological paradox has to be the centre of the Christian cosmology.

The Final Anthropic Principle (FAP) can demonstrate an extreme negligent attitude of human thinking, as „intelligent information-processing must come into existence in the universe, and, once it comes into existence, it will never die out.”²⁸ This principle is rather speculative than well-grounded scientifically, the danger of irresponsibility is true in this formulation. If we never die out,²⁹ then we can do anything arbitrary in our world.

The cosmology and christology of Christian theology is in contrast to FAP. The providence of God and the responsibility of humankind does not allow a negligent and careless attitude to the created world. God not merely created this world for people, but also lived through it as a man. It is very important that the church fathers in the early Eastern Christian churches used the Greek word *οἰκονομία* as incarnation of Christ, though the primary meaning of this word is „providence”. According to Paul, Jesus Christ is the Son of God, and „all things were created through him and for him.” (Col. 1:16) The interpretation of phrase „through him” has rich tradition, as God created the world through His word, and John identifies this word (*logos*) with Jesus Christ in the prologue of his testimony.

²⁶ Dalferth, p. 130.

²⁷ Barrow and Tripler, p. 22.

²⁸ Barrow-Tripler, p. 23.

²⁹ The FAP included the hypotheses that the world emerged from infinite number of possible worlds. According to the probability theory, the infinite number of possible events in domain and the supervenience of a certain event implies that this event will be happened again.

This „for him” might indicate a "Christological Anthropic Principle". Although I do not think that this Christological Anthropic Principle can add anything to the existed anthropic principles, or it can be expressed in a new statement. Only it would say that ἄνθρωπος is man who addressed by Pilate as „ecce homo”. It includes nothing more than an attitude that we should have when we are talking about the universe, that we should do not forget our responsibility of world and our smallness.