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## **A Theological Perspective on the Phenomenon of Creation in Transgenic Art**

**Abstract:** Bioart or transgenic art is a new and rapidly developing form of artistic activity that uses genetic engineering techniques to create a new and unique form of life. The article explores the creation and manipulation of life through the examples of three types of transgenic art projects: works by Eduardo Kac, performance, and the creation of semi-living organisms. The main aim of the article is to present the phenomenon of bioart against the background of fundamental dogmatic truths concerning creation and man, and then to draw theological conclusions. The addressed issues concern interspecies boundaries, bioartists' interference with life, and man's place in the world. An analysis and reflection of this kind reveals the transcendental nature of life in terms of its creatureliness in relation to God, places fundamental truths at the forefront, refers to theological and biblical terminology, and shows theological anthropology as the most appropriate place to understand the essence of life.

**Keywords:** bioart, life, creation, Creator, theological anthropology

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### **Introduction**

**B**ioart or transgenic art is a new form of artistic activity that adapts scientific methods and draws inspiration from the philosophical, social, and environmental implications of recombinant genetics, molecular biology, and biotechnology.<sup>1</sup> It uses genetic engineering techniques to transfer natural genetic material or synthetic genes into an organism to create a new and unique form of life.<sup>2</sup> The creators of bioart treat people, animals, and all other living beings as their

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<sup>1</sup> Cf. Yetisen – Davis – Coskun – Church – Yun, "Bioart," 724.

<sup>2</sup> Cf. Rozynek, "Bioart," 29.

artistic material, hence it seems controversial to squander life, which for a believer is a precious gift from God. This is a quite young field of art, but it is developing rapidly. Most artists who work in this trend consider bioart to be an art that creates life. They also emphasize that they do everything with respect for life and that their activity complements bioethics. However, this approach raises some anxiety among the representatives of other fields of science and the public, and the art itself seems to ask more questions than it gives answers.

Therefore, it seems the right decision to look at this subject from the theological point of view. The specificity of the sciences, such as biology, physics, cosmology, on the one hand allows for a specific look at the manifestations of biological life, on the other hand limits the understanding of the phenomenon of life, sometimes reducing it only to the biological sphere. Art and theology look at this life in a different way. Theological insight creates a new space for interpretation and broadens the horizon of life as a gift and allows us to look at God as the Giver of life, who is sometimes overlooked in most sciences. In transgenic art, however, God is replaced by an artist who creates various forms of life.

Due to the subject matter, the work will be interdisciplinary, which means that the achievements of the two mentioned fields will be used to comment on the discussed issues. Interdisciplinary research involving theology is an attempt to place all human knowledge in the broadest cognitive perspective that is related to the concept and reality of Revelation. The Revelation offers the widest space for understanding and categorical possibilities for the synthesis of knowledge from other fields of science.<sup>3</sup> The presented article is an attempt at theological evaluation of the phenomenon of creation in transgenic art. It is worth adding, however, that all direct theological evaluations, as well as secondary and indirect moral evaluations derive from the dogmatic view.

At the beginning, it will be shown how transgenic art has developed, then some phenomena occurring in this trend will be presented and interpreted in relation to theological anthropology. Due to the extensive subject of bioart, this article will focus on three

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<sup>3</sup> Cf. Woźniak, "Dogmatyka," 19.

types of projects: *Genesis and The Eighth Day* by Eduardo Kac, performance: *May the Horse Live in Me* and *K-9\_topology* as well as *Tissue Culture and Art Project (TC&A)*. These projects seem significant in the field of bioart and important and fundamental for theologians because they directly relate to the creation of life and relate to the system of beliefs and values. For a proper understanding of the essence of the evaluation attempt, it must be added that it does not derive from moral categories, but rather from a fundamental thing originating from the science of creation itself, which will be referred to later in the article.

All this will also make it possible to try to answer the questions: Does art give the right to manipulate and create life? Can we interfere with life just because we can do it? And finally: What exactly is life, humanity and what are their boundaries?

## 1. Historical background

A human interference with nature began centuries ago. However, it is difficult to clearly determine from when historically it is possible to speak of the beginnings of human interference with the naturally occurring biological processes in the world of plants, animals, and humans. The art and literature showing the “animation” of inanimate materials or the transformation of living beings into another form already existed in Ancient Greece. The art, architecture, and mathematics of the Greek “Golden Age” reflected the principles of biological origin and laid the foundations for the art and sciences of the European Renaissance. In turn, the open influence of biologists on artists fell on the 19<sup>th</sup> and 20<sup>th</sup> centuries.<sup>4</sup> The juxtapositions of art and biology sometimes accidentally stimulated scientific discoveries. Alexander Fleming, the discoverer of the antibiotic – penicillin, created “germ paintings” on paper. Fleming’s bacterial paintings became remarkable not only in terms of composition, but above all because of the discovery of penicillin on them. Fleming

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<sup>4</sup> An example can be the collaboration between Charles Darwin and Oscar Rejlander (1872). Cf. Yetisen – Davis – Coskun – Church – Yun, “Bioart,” 725.

discovered that fungi kill bacteria on paper, thus making a remarkable contribution to the discovery of antibiotics.<sup>5</sup>

The precedents of bioart also includes ornamental horticulture. Over the millennia, aesthetic traits have been selected in plant and animal breeding and phenotypes have been changed in many species. This type of bioart, for example, was dealt with by Edward Steichen, who genetically altered flowering *delphinium* with colchicine, a chemical later used by horticulturalists to induce desirable mutations in arable and ornamental plants.<sup>6</sup>

Environmental art is also classified as bioart. Initially, it aroused a lot of controversy caused by its destructive impact on the environment. With the development of ecological awareness, environmental artists, while retaining their identity, moved away from manipulating the natural landscape towards restorative art in places damaged by human activity.<sup>7</sup>

The first bioartist that started working with another seemingly unrelated field of science to find new tools was Joe Davis. The work of Joe Davis and Dana Boyd of 1986 was a turning point for transgenic art, which gave it its direction. This work, called *Microvenus*,<sup>8</sup> became the first artwork to be created using techniques used in molecular biology and the first artwork to be created directly in the form of DNA. The works on DNA opened new perspectives on thought experiments, among which another artwork by Joe Davis from 1995 called *The Riddle of Life* became a hallmark. The coded message in the DNA was: “I am the Riddle of Life. Know me and you will know yourself.”<sup>9</sup> It was the manipulation of DNA molecules that was

<sup>5</sup> Cf. Yetisen – Davis – Coskun – Church – Yun, “Bioart,” 726.

<sup>6</sup> Cf. Mitchell, *Bioart and the vitality*, 36–41.

<sup>7</sup> Paving hillsides with asphalt (Robert Smithson), restoring barrier islands with plastic or transforming volcanic craters (Christo and James Turrell). Cf. Yetisen – Davis – Coskun – Church – Yun, “Bioart,” 727.

<sup>8</sup> *Microvenus* is an artwork, a poetic image. In this artwork, the appropriate arrangement of the underlying DNA sequences symbolically represented the female genitals. Cf. Nadis, “Science for art’s sake,” 668.

<sup>9</sup> Davis was inspired by the work of Max Delbrück and George Beadle, who were the first to exchange encrypted messages based on linguistic operations of the genetic code back in 1958. The name *Riddle of Life*, in turn, was inspired

the main inspiration for the work of Eduardo Kac, whose projects will be described later in this article.

After a brief, cross-sectional history of bioart, it can be concluded that it has a very broad reach. In the light of theological anthropology, most manipulations are not controversial, and often even seem useful, used, for example, in the humanities, medicine, gastronomy, biotechnology or pharmacology. After all, man's task is to serve society by developing the Creator's works and helping people. With their personal contribution, scientists and artists can contribute to the fulfillment of God's plans in history.<sup>10</sup> The ingenuity and originality of bioart has a function that is not only aesthetic, cognitive or emotional. The above-mentioned fields are utilitarian by their nature. The organisms created by biotechnologists have a specific task – to be more resistant, stronger, or devoid of a specific feature. In pharmacology and medicine, human well-being and life are in the first place. Bioartists, on the other hand, want to use their creativity to draw attention to a specific problem, to provoke discussion, but the organism they create does not have to be “useful” in any way.<sup>11</sup>

Bioartists take very different approaches, therefore artworks should be treated individually and should be considered separately in terms of their meaning. This task would be beyond the possibilities of a single academic article, so the projects addressed in the next section of the article seem to be important for theologians.

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by the *Riddle of the Sphinx* from Ancient Greece. However, Delbrück and Beadle were unable in 1958 to synthesize the actual DNA. DNA could not be synthesized until the mid-1980s, and a DNA molecule as large as the 174-mer *Riddle of Life* could not be synthesized before the advent of PCR (*polymerase chain reaction*) – an assisted synthesis, which was not widely available to biologists until early 1990s. Joe Davis, in the winter of 1993–1994, synthesized and purified the DNA of the *Riddle of Life*, and in 1995 organized an exhibition at Harvard's Boylston Hall and Harvard Yard. Both artists and scientists took part in this exhibition. Cf. Davis, “Cases for Genetic Art,” 257–260.

<sup>10</sup> Cf. Vaticanum II, *Gaudium et spes*, no. 34.

<sup>11</sup> Cf. Rozynek, “Bioart,” 29.

## 2. *Genesis and The Eighth Day*

One of the precursors of transgenic art is Eduardo Kac, a contemporary American bioartist, who calls bioart an art that manipulates or creates life. Presented in 1999 at Ars Electronica and on the Internet, *Genesis* is one of Kac's first transgenic artworks. It explores the intricate relationship between biology, belief systems, information technology, ethics, and the Internet. The key element of the work is an "artist's gene," a synthetic gene that was created by Kac by translating a sentence from the biblical Book of Genesis into Morse Code, and converting the Morse Code into DNA base pairs according to a conversion principle specially developed by the artist for this work. The sentence from the Bible was also chosen not by accident. The words: "Let man have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moves upon the earth" (Gen 1:26), as specified by Kac, were chosen because of their implications about the dubious notion of – divinely sanctioned – humanity's supremacy over nature.

This gene was incorporated into bacteria, which were shown in the gallery. The people viewing the exhibition virtually could turn on an ultraviolet light in the real gallery, causing real, biological mutations in the bacteria, and as a result this changed the biblical sentence. After the end of exhibition, the DNA of the bacteria was transferred back into Morse code and then into English. However, the mutations that took place changed the original sentence in the Bible, and its mutated version became the leading one and was announced on the *Genesis* website. Eduardo Kac openly sums up this transgenic artwork, explaining that the change of the biblical sentence was deliberate and symbolic. It means that we no longer accept its form, which we find in the Bible. The supremacy of humanity over nature is questionable by Kac. He stresses that new meanings of the text can emerge if we only seek to change the old ones.<sup>12</sup> Eduardo Kac is not only on the side of biotechnology or digital technology, but uses them to, in a sense, question and perhaps ridicule the rhetoric used by today's science and any ideology, the main tool of which is language

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<sup>12</sup> Cf. Kac, "Life Transformation," 164–165; cf. also: Kac, "Bio Art," 16–17.

Eduardo Kac explains his artistic role in the world as follows: while the development of technology itself inevitably carries the risk of disseminating a reductive and instrumental view of the world, art can and should (without ever giving up its right to formal experiment and subjective invention) contribute to the development of alternative views of the world that resist dominant ideologies. Modern technology should be used, not to make statements in isolation from social changes, but to critically approach established patterns.<sup>13</sup> Indeed, Kac goes beyond the patterns, his artworks are perceived with detachment also by the artists themselves. Perhaps Kac does not intend to strike directly at the Christian religion, but through his artworks he certainly undermines it to some extent and recognizes that it is insufficient and outdated.

This also seems to be strongly emphasized by *The Eighth Day* project, corresponding to the creation of the world and the text from the Book of Genesis. *The Eighth Day* is a transgenic artwork that investigates the new, globally developed ecology of fluorescent creatures, interacting with each other in a separated and segregated space. The artwork consisted of living, transgenic creatures such as GFP plants, GFP amoeba, GFP fish and GFP mice, as well as biological robots (biobots) housed in a space under a transparent Plexiglas dome. *The Eighth Day* presents an expansion of biodiversity, as a self-contained artificial ecological system. The title of the work, on the other hand, refers to the creation of the world, or actually represents the eighth day added to the description of creation found in the Judeo-Christian scriptures: “By the seventh day God had finished the work he had been doing; so on the seventh day he rested from all his work” (Gen 2:2).<sup>14</sup>

### 2.1. God – human – world relationship

The analyzed projects by Eduardo Kac provoke the following questions: is the creation of the world by God an imperfect, unfinished work? Is one more day needed when man continues the work of creation

<sup>13</sup> Cf. Kac, “Bioart,” 14.

<sup>14</sup> Cf. Kac, “Life Transformation,” 175–177.

by creating transgenic plants and animals, putting himself or herself in the place of God the Creator?<sup>15</sup> If Kac in the *Genesis* project challenges the domination of man and anyone over nature, perhaps also in *The Eight Day*, he wants to show that nature rules itself, there is no higher cause that gives rhythm, sustains life in existence, and man is a negligible part of this world?

In his article entitled *Transgenic Art*, Eduardo Kac often calls for ethical responsibility while arguing that transgenesis is inexorably becoming an integral part of our lives – with applications in food processing, aesthetics, and medicine. It seems that transgenic art more and more often wants to show the blurring of genetic and species boundaries. He also points out that bioart will soon challenge our concept of species and even what a human being is.<sup>16</sup> The question, however, is whether this truth can be challenged?

It seems that the intention of bioartists is also to stimulate the thinking of themselves and the art audience to answer the questions: Who am I? What am I in the world? What is my role? A contemporary American theologian, Marc Cortez, notes that although we are human, we still do not know what this means. Not only are we uncertain of our ability to answer the identity question – “Who am I?” – but we are also seeing a growing lack of confidence in our ability to even answer the question of the essence of – “What am I?” or “What do I constitute?” Even with the advent of neuroscience and its remarkable ability to analyze the complex factors that make up

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<sup>15</sup> The visitors to the gallery could actually feel like God for the time being. They had the opportunity to see the terrarium with transgenic creatures both inside and outside the dome. As they stood outside the dome, looking inside, someone else could observe this space via the Internet from a biobot’s perspective, seeing both the transgenic environment and the faces and bodies of local viewers. The viewers in the gallery could temporarily believe that their glance is the only human glance contemplating the organisms under the dome. But navigating the web, they noticed that the viewers from behind the computer could see the environment from a bird’s-eye view, thanks to a camera mounted above the dome. From the point of view of online participants, the local viewers became part of the ecology of the living creatures portrayed in the artwork, as if they were locked in a net-dome. Therefore, they are part of a system, they do not differ in any particular way from the presented beings, they are equal to them. Cf. Kac, “Life Transformation,” 176.

<sup>16</sup> Cf. Kac, “Transgenic Art,” 1–2.



a person's cognitive and psychological processes, we are still unsure whether they truly capture the essence of what it means to be human. Certainty that we truly understand humanity remains elusive. Our answers to the questions "Who am I?" and "What am I?" are closely related to the question of "Who should I be in the world?"

Theological anthropology treats the human being as an important subject of theological reflection because the Triune God has drawn the human being into the theological narrative and, consequently, made the theological understanding of man a necessary and vital aspect of the theological task.<sup>17</sup> Only man has the ability to ask about the cause, may wonder that he or she is spirit and body, may distance himself or herself from his or her immediate being, and may perceive the problematic nature of "his or her own cause."<sup>18</sup> These fundamental truths of anthropology should never be forgotten or obliterated, even when dealing with contemporary art precedents and the freedom of artistic expression.

Eduardo Kac's invocation of a biblical sentence, and at the same time questioning the creation of the world and blurring the hierarchy of creation, and perhaps even the appropriation of the title of Creator by man is controversial. Perhaps it is also a conscious or less conscious attempt to provoke a response on this issue, which theologians cannot ignore. Kac's artworks sometimes cause anxiety, especially when it comes to the approach to undeniable norms. The theological message of the poem on the creation of the world (*Hexaemeron*) confirms the truth revealed in the Bible. Certainly, the Book of Genesis is not scientific and does not contain information on the genesis and construction of the universe. It is a literary description intended to convey essential theological truths.<sup>19</sup> For Christians, the first and fundamental statement of revelation about creation is that God is the origin and destination of all creation and salvation history (DH 171, 790, 800).<sup>20</sup>

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<sup>17</sup> Cf. Cortez, *Theological Anthropology*, 2.

<sup>18</sup> Cf. Balthasar, *Teodramatyka*, 462.

<sup>19</sup> Cf. Heller – Pabjan, *Stworzenie i początek Wszechświata*, 31–37.

<sup>20</sup> God brought into existence the whole earth and everything in it from nothing. Initially, there was no life in creatures, only God "gives" to the world, introduces it into the world, adds something new to the world, which has not been there so far.

Creativity means that man in all reality, in existence, in spiritual and body realization is constituted exclusively and fully by a transcendental relationship to God as his origin and destination. At the center of his or her existence, the man understands himself or herself as a person who, in his or her spiritual acts, experiences an existence promised unconditionally and hence possessed as his or her own (autonomy, substance). Accepting this truth is of decisive importance for man's self-realization and for achieving one's own identity in the process of actualizing the transcendent relationship with God.<sup>21</sup>

Eduardo Kac challenges the truth about entrusting the power over the world to man. The content of human creativity is illustrated by the Church using the biblical concept of "the image of God." According to the most common interpretation of man being created in the image of God, it means that man is God's substitute or representative in the created world. This concept, which has its source in the Book of Genesis (1:26–27), becomes the key for the interpretation of the special dignity and role of man. This is indicated by some of the features: the diversity of the organic system, biological structure, openness to the world, awareness, self-determination, knowledge.<sup>22</sup>

Man has been endowed with the highest dignity, which is rooted in the intrinsic bond that unites him to the Creator, as John Paul II teaches. Man was created in the world and with the world, but the Creator gives him or her this world and makes the earth subdue (cf. Gen 1:28). The biblical-cosmological concept includes supremacy, the result of which is obedience to God's command to rule the world. The description of creation stresses the close relationship between man and the created world. The man is one of the objects of the world, is included in the cosmological image, but nevertheless does not

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This something is life, which is given by God and appears for the first time on earth. This novelty is also shown and emphasized by God's blessing on newly created living beings. Giving life is not something that living beings have in themselves, but for this the help of God, His blessing, is necessary. Cf. Lasek, "Zjawisko 'duży' w Heksaameron," 219–220.

<sup>21</sup> Cf. Müller, *Katholische Dogmatik*, 110.

<sup>22</sup> Cf. Bujak, *Człowiek jako imago Dei*, 51–52.

emphasize his or her similarity to the created beings. The man's supremacy results from his or her likeness to God. This uniqueness is highlighted in the man's mindfulness, which makes it impossible to reduce him to the visible world only.<sup>23</sup>

Man is a being capable of transforming nature, raising it to his or her own level, he or she must feel superior to this nature; and must be higher than it – as Karol Wojtyła emphasizes. This confrontation of man with nature leads man to the threshold of understanding his or her person and dignity.<sup>24</sup> Man will never be like God, and all attempts to abolish the protological and anthropological foundations and attempts to put man in the place of God, as we know from history, have often ended tragically. There were many reductionist visions of man, which influenced the recognition of the fundamental human reality of the existence of free will, the phenomenon of selflessness, understanding culture, the existence of free will, morality, and religion.<sup>25</sup>

It is worth highlighting the approach of John Paul II who, seeing the changes taking place in European culture, noted that when the values that inspire art and culture are separated from the Gospel, “they lose their deepest soul, leaving room for numerous distortions.”<sup>26</sup> Similarly, therefore, in transgenic art, without understanding these foundations, the essential truths about creation, about what man is in the world, what man's place is and what constitutes man, can be increasingly blurred.

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<sup>23</sup> Cf. Wilczek, *Antropologia filozoficzna*, 141–142.

<sup>24</sup> Cf. Wojtyła, “Człowiek jest osobą,” 418.

<sup>25</sup> Such a reductionist vision of man, limited to only one stage in the evolution of species, can be found in the founder of sociobiology, Edward Wilson. The second post-Christian deformation of human dignity is to grant it only to some representatives of our species. Peter Singer believed that the lives of some people are more valuable than the lives of other people (e.g., disabled, sick or infants) to the extent that sometimes the lives of animals are more valuable than the lives of some people. The life of a healthy animal that is capable of feeling pain, pleasure and bonding is more valuable than the life of an impaired infant. Cf. Kupczak, “Antropologia,” 95–99.

<sup>26</sup> Cf. John Paul II, *Ecclesia in Europa*, no. 47.

### 3. Performance

Other projects worth looking at from a theological perspective are *May the Horse Live in Me* and *K-9\_topology*. These projects completely depart from any utilitarianism of their message. They are about the human-artist and his or her collaboration with non-human animals. They are based on scientific research and use technological manipulation. They aim at different ways of challenging the boundaries between human and non-human. They want to blur the distinction between species and to challenge and question the concept of a biological unit.

The project *May the Horse Live in Me* by Art Orienté Objet – Marion Laval-Jeantet and Benoît Mangin presents an extreme case of medical self-experiment, during which horse blood plasma, containing the entire spectrum of immunoglobulins, was injected into the human body.<sup>27</sup> During the performance on stage, the artist injected herself with the horse blood. She also attached hooves to her legs and walked on stilts to feel even more like an animal. Talking about her motivation for such a specific form of art, she emphasized that she was frustrated by the inability to put herself in the place of an animal and the fact that it is human being that marks the place for animals and people in the world. She wanted to finally experience something other than just human perception. This radical experiment challenged the anthropocentric attitudes inherent in our understanding. The performance was a continuation of the myth of the centaur, a hybrid of man and horse, which as “animal in

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<sup>27</sup> The intention of this project was for animal immunoglobulins to bypass the defense mechanisms of the human immune system and bind to human proteins, thus creating some connectivity between the animal and human immune systems. The biomedical experiment consisted of several procedures. Within a few months, the artist Marion Laval-Jeantet allowed herself to inject horse immunoglobulins in order to gradually develop a tolerance to a foreign animal body. To achieve this, certain elements that are fatal to humans had to be excluded, such as red blood cells, white blood cells, macrophages, etc. After these elements were removed, what remained was blood plasma, which contains hormones, lipids, and several types of proteins (immunoglobulins, cytokines, etc.) that carry information in the organism. Cf. Žukauskaitė, “Hybrids,” 28.

man” symbolizes the antithesis of the rider, the man dominating the animal.<sup>28</sup>

Maja Smrekar’s project,<sup>29</sup> *K-9\_topology*, aimed at hybridization with a focus on gene coevolution, evolutionary psychology, behavioral ecology, and cultural evolution in the wolf – dog – human triangle. In the first part of the project, at the exhibition “ECCE CANIS” (2014), the artist recreated the smell of the hormone serotonin, which was biotechnologically extracted from the blood of the artist and her dog. This hormone was supposed to define the mutual tolerance between humans and wolves that were domesticated as dogs. In this respect, the smell of serotonin not only created a molecular environment for interspecies coexistence, but also encouraged the viewer to join in the process.

Another attempt to create a symbiosis between the two species was the performance “HYBRID FAMILY” (2015–2016), which took place at the Freies Museum in Berlin. During this performance, the artist, using a specific diet and mechanical stimulation of her breasts, produced colostrum that was used to feed a puppy. In this respect, the performance questioned the normative status of the heterosexual family and invited viewers to imagine “unnatural” or “aberrant” family ties with other species. In the next edition of the “ARTE\_mis” project (2016–2017), the interspecies relationships went even further,

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<sup>28</sup> During the performance and in the weeks following the performance, the artist experienced changes not only in her physiological rhythm, but also in her consciousness. She felt “inhuman,” very strong, oversensitive. “I had a feeling of being inhuman. I was not in my normal body. I was very strong, overly nervous, and very shy, oversensitive. I could not sleep.” See: Debatty, “Que le cheval vive en moi.”

<sup>29</sup> The artist is also interested in the phenomenology of perception, the view that consciousness and environment interact as creators of thought, as proposed by Maurice Merleau-Ponty. This position contrasts with the Cartesian claim that thinking and being are simultaneous. Smrekar has also created, among other things, the project Hu MCC (Human Molecular Colonization Capacity), in which, in cooperation with biologists, the artist combined the genetic code from her own DNA to change the yeast, changing her metabolism in such a way that it produced lactic acid (quite common in the food industry). This acid was then used to produce a yoghurt, called Maya YogHurt. Those wishing to taste this product first had to sign a contract acknowledging their responsibility for its consumption. Cf. Myers, *BioArt: Altered Realities*, 38.

trying to create a hybrid at the cellular level. After conducting tests in the laboratory, the artist and her colleagues managed to carry out an *in vitro* “fertilization” of the artist’s egg cell with her dog’s somatic cell, taken from its saliva. The combined cell was kept alive for two days, and after cessation of nutrition, it remained frozen as a molecular sculpture.<sup>30</sup>

### 3.1. Beauty, truth, humanity

The projects by Marion Laval-Jeantet and Benoît Mangin and Maja Smrekar show that bioart is a type of art that creates biological reality, i.e., hybrid beings at the sub-cellular level. These artists emphasize that they want to force man to reflect on the relationship between man and the rest of nature, on what is natural and what is artificial. The bioartists, however, intentionally question the boundaries of individual organisms and the divisions between species. In the past, art was aimed at transmitting positive values, fulfilled the function of *mimesis* (imitation) and *catharsis* (purification), led to the feeling of an inner, psychological order, enabling contemplation of the truth, developed and sanctified man.<sup>31</sup> Its aim was to tame the mystery of being, reaching into the sphere of the *sacred*.

“God saw all that he had made, and it was very good” (Gen 1:31): John Paul II in his *Letter to Artists*, referring to the above verse from the Book of Genesis, emphasizes that artists have a unique gift of discovering beauty in God’s creatures, “sensing in [them] some echo of the mystery of creation with which God, the sole Creator of all things, has wished in some way to associate [the artists].”<sup>32</sup> The Pope notes that the artist, accordingly to the requirements of art, should also follow the rules. The artist should not create for his or her own sake. Using his or her creative skills, the artist reflects who

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<sup>30</sup> Although the combined cell did not have a chance to develop due to the large biological differences between these two species, this frozen molecule can be seen as a virtual form of werewolf or woman-wolf that could potentially become real in the future when (and if) artists could legally use canine reproductive cells (instead of somatic cells). Cf. Žukauskaitė, “Hybrids,” 31.

<sup>31</sup> Cf. Krąpiec, “Od mimesis do katharsis,” 214.

<sup>32</sup> John Paul II, *Letter to Artists*, no. 2.

he or she is, reveals his or her personality, but also through his or her works the artist communicates with others, influences the audience of art, makes a special contribution to the history of culture.<sup>33</sup>

Art does not have to be “useful” – it is its feature. Art is for man and serves man. Do the new biological hybrid assemblages fulfill this function well in their theatricality and bio-performativity? The described projects often introduce more uncertainty than they contribute to a positive aesthetic experience among viewers. But it does not have to be an argument against transgenic art either. According to Gadamer,<sup>34</sup> art is more than just a collection of beautiful objects to admire, but it transforms our self-understanding. Art does not so much stimulate elevated experiences as it allows us to better understand the world and ourselves. What matters most in meeting art is what it says – its sense. Moreover, art is a game that draws the participants in, helping them to understand their being human. It refers to something greater, to sense, to full sense, to “truth.”<sup>35</sup> Therefore, also in this context, further questions arise which provoke thought: Will such art as proposed by bioartists “save the world”? Does such art lead to “truth”? Is it a development or perhaps a regression of humanity?

Theological anthropology clearly defines the place of man in the world of nature. According to Wolfhart Pannenberg, a German theologian and philosopher of religion, the animal environment is not transferable to the human environment. Human behavior is not innate, as in the case of animals, but is the result of culture and other complex factors. The human person is distinguished from the animal world by a way of being that indicates his or her spirituality and a different view of the world, as well as going beyond this world.<sup>36</sup> Pannenberg, referring to the discussion on man’s place in the world, explains that man in truth has certain established patterns of behavior, but these are the starting point of man’s openness, or self-transcendence. The most

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<sup>33</sup> Cf. John Paul II, *Letter to Artists*, no. 1.

<sup>34</sup> Hans-Georg Gadamer was a German philosopher, humanist, co-creator of modern philosophical hermeneutics, to which theologians often refer.

<sup>35</sup> Cf. Dybel, *Gadamera myśl o sztuce*, 17.

<sup>36</sup> Cf. Pannenberg, *What Is Man?*, 3–6.

important, however, is that man creates a personal unity of soul and body. The man lives in the world and is a being open to the world always, through every situation, every experience, the man opens himself or herself further and further, even beyond the world; the man transforms the natural world into culture, but cannot do so contrary to nature.<sup>37</sup>

Helmuth Plessner, on the other hand, explained human's position by distinguishing human from animals, for whom they themselves are the center of life. Human sees his or her center not only in himself or herself, but also outside himself or herself. Humans are superior to animals by their spirit, giving an infinite horizon. Human not only wants to eat and drink, but seeks community, intimacy, friendship. Human desires spiritual exchange and spiritual knowledge.<sup>38</sup> God gave the animals an instinct and left the human with the image, religion, and humanity in the soul.<sup>39</sup>

It is also worth emphasizing that God also gave man a unique gift, which is freedom. Man, being the crown of creation, is subject to the law of nature, but is not limited solely to it. As the only creature, thanks to its rational nature, man obtains the right to live in true freedom. John Paul II, in the Encyclical *Veritatis Splendor*, describes it as “the principle of a rightful autonomy” (*VS* 40).<sup>40</sup> It means that the Creator, in the act of bringing a man into existence, poured into his or her nature the “light of reason,” thanks to which the man can choose good and avoid evil. According to John Paul II, this would lead to the death of true freedom. The true autonomy of reason, which the Pope calls “theonomy” or “participatory theonomy,” does not mean rejecting God's law, creating one's own moral norms, but voluntary obedience, which implies an authentic participation of human reason and human will in God's wisdom. Thus, God, in His goodness, allows man to read God's moral law with his or her

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<sup>37</sup> Cf. Pannenberg, *What Is Man?*, 7–9.

<sup>38</sup> Cf. Peđrak, “Interpretation of spiritual life,” 173–174.

<sup>39</sup> Cf. Herder, *Ideen zur Philosophie*, 312–313.

<sup>40</sup> Cf. Vaticanum II, *Gaudium et spes*, no. 41.



reason, but the decision to accept or reject it is left to man's decision and choice.<sup>41</sup>

The abandonment of these boundaries and principles, as well as the desire to even remove them, is not only an unethical act of transgenic art, but also opposing the essence of humanity understood in the light of Christian anthropology. The assumptions of the discussed performances seem to completely ignore the truth about the dignity and vocation of the human being<sup>42</sup> as a person created for his or her own sake. And this vocation implies the ability of human being to know and love God as Creator. The creation of human persons, their status as beings created in the image of God, their falling into a sinful state, and their subsequent redemption and eschatological glorification, are all theological realities without which the human person is not fully understood. Indeed, from this perspective, the human person is always – already defined and determined by his or her relationship to God. For theological anthropology, therefore, a true knowledge of the human person begins with the relationship between God and human beings, and this theological anthropology begins with the divine-human relationship; this also means that it must begin with the person and work of Jesus Christ.<sup>43</sup>

Man's likeness to God is his or her natural and irretrievable attribute. Since the world is subordinated to man (which is precisely what the above projects are opposed to), the man must understand himself or herself as the goal and center of revelation through the created world. Every man, including the non-believer, has an inner life; the desire for God (the Absolute) is inscribed in him or her. Michael Polanyi calls it *the logic of achievement*. It is an openness and orientation towards "something more."<sup>44</sup>

God, in creating man and the world, wanted to express Himself. In this way, He also wanted to show His love towards the world, especially towards man, whom He created in His own image and

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<sup>41</sup> Cf. Wilczek, *Antropologia filozoficzna*, 256–258.

<sup>42</sup> Cf. Vaticanum II, *Gaudium et spes*, no. 12.

<sup>43</sup> Cf. Cortez, *Theological Anthropology*, 5.

<sup>44</sup> Cf. Peđrak, "Interpretation of spiritual life," 177–178.

likeness, chose him for His sonship.<sup>45</sup> Above all, human dignity finds its culmination in the fact that the Son of God assumed human nature, which is especially emphasized by the Second Vatican Council. In Christ the assumed nature was not destroyed, but in us it was elevated to a high dignity. “The mystery of man is only truly explained in the mystery of the Incarnate Word.”<sup>46</sup>

After a brief analysis of the uniqueness of the human being and the unique capacities that distinguish the human being from other creatures, it must be concluded that any attempt to remove interspecies boundaries, as seen in the bioart projects analyzed above, is theologically impossible. Such an approach would undermine the fundamental truth about man and his or her special place in the world.

#### 4. Semi-living organisms

One of the roles, which art that bioartists talk about can play is to propose scenarios of “worlds under construction” and abolish technology to create objects that can be challenged. This role of art caused that the so-called semi-living organisms as suggestive “objects” of art started to appear in galleries. Bioartists wanted to bring back life to art, and thus transcend the concept of art as generating only immovable, eternal objects of beauty.<sup>47</sup>

Since the use of living tissue for artistic purposes is a new and largely incomprehensible phenomenon, there is a need for a brief overview of what semi-living organisms are. These are tissues that are cultured, living, functioning, and sustained “outside the original body.” Cells and tissues are taken by biopsy from a living body, or from a body that has been intended for scientific purposes, or from bodies destined for food. The cells are then seeded in a specially coated petri dish or tissue culture flask. In the case of tissue engineering,

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<sup>45</sup> Cf. Siwecki, *Człowiek odczytany w Bogu Ojcu*, 101.

<sup>46</sup> Vaticanum II, *Gaudium et spes*, no. 22.

<sup>47</sup> One of the first works to present live animals in the gallery was Philip Johnson’s 1934 installation *America Can’t Have Housing* at MoMA, which recreated slums, including cockroaches. Cf. Catts, *The Art of The Semi-Living*, 5–6.

the cells (or tissues) are placed on three-dimensional scaffolds made of specialized materials. The tissues and cells are kept alive with nutrients and under conditions that attempt to imitate their original environments. Importantly, this type of art uses terms drawn from agricultural and religious jargon as well as from alchemy. The artists emphasize the role of this art for society: the role of the redeemer and the provider of “salvation” for the weakness of the current human condition.<sup>48</sup>

The *Tissue Culture and Art Project* (TC&A) is a project of one of the most significant groups in today’s transgenic art. This work brings to the fore the ontogenetic aspects of bioartistic encounters in two ways. Firstly, conceptually, their project highlights the imperfections of the ontological privilege of the “individual” in many social sciences and philosophical sciences in order to be able to engage in new technological conceptualizations of “life” in contemporary life sciences. Secondly, the lead artists Ionat Zurr and Oron Catts claim that, by cultivating evocative semi-living sculptures, they are attempting to demonstrate anew the ontological status of these beings beyond the theories of human exceptionalism, present in cultural and scientific narratives about life, as well as in an increasingly pervasive engineering mentality that reduces life to a raw material organized around an anthropocentric logic of utility and control.<sup>49</sup>

The possibility of disturbing thinking habits is a key aspect of the encounter with the bioartistic works of TC&A, the installations of which rather try to extend the experience of affect. Highly visible assemblages of glass, metal, petri dishes, fluids, and body-like substances in installations such as *Victimless Leather* and *Semi-Living Worry Dolls* are unstable materials, causing the viewer an embodied oscillation between a sense of reflective distance (“it is just art”) and a sense of an overwhelming presence (“this is real!”). Secondly, as Mitchell points out, TC&A often include performative events

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<sup>48</sup> Cf. Catts, *The Art of The Semi-Living*, 1–2.

<sup>49</sup> Cf. Lapworth, “Theorizing Bioart,” 124.

and rituals in their activities to create a much more extensive sense of space and time in the bio-artwork.<sup>50</sup>

According to Giorgio Agamben, an Italian philosopher, dealing with, among other things, biopolitics, the specific time in which semi-living organisms exist, is called *kairos* or “time now” and can be contrasted with our customary chronological time. *Kairos* is messianic time, a contraction of time (like time under specific laboratory conditions) that helps to imagine new ways of organizing living materials. Laboratory-bred semi-living beings, potentially living and dying at the same time, can be treated as “bare life” according to Agamben. In this sense, semi-living beings are subject to manipulation and control that can extend or end their life. This potential death, like potential or future life, belongs to a specific modality of time – the messianic *kairos*.<sup>51</sup>

The duration of the experiment is, according to them, the *kairos* moment, a contracted time in which the moment of the animal’s death contains the promise of a different future for humans. The biological *kairos* is that impossible, unimaginable moment when life and death, animal life and human life can be interchanged. Bioart explores exactly this interchangeability, making the artist’s body the time and space of an experiment. The biological *kairos* is also a critical, decisive moment, which may be associated with a danger for the artist – the danger of anaphylactic shock, the danger of animal aggression or fatal contact.<sup>52</sup>

#### 4.1. God – the Giver of life

The human geographer Deborah Dixon and the media expert and artist Maciej Ożóg noticed that the ontic status of TC&A artworks serves to make us think about such categories as body, individuality, identity,

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<sup>50</sup> At the end of Disembodied Cuisine, for example, the viewer and the artwork were literally brought together through a “food ritual,” in which semi-living steaks from frogs bred for eight weeks were cooked and eaten in a *nouvelle cuisine-style* dinner. Also equally controversial are the so-called killing rituals. Cf. Lapworth, “Habit,” 93–95.

<sup>51</sup> Cf. Žukauskaitė, “Hybrids,” 33–34.

<sup>52</sup> Cf. Žukauskaitė, “Hybrids,” 35.

but above all about life itself. The critical potential and aesthetic value of artworks are seen as interrelated in both relationships, in a positive moralistic interpretation of artworks conveying a moral critique of biotechnology, but also a potentially deeper ontological understanding of life.<sup>53</sup> Therefore, it is also worth looking at this phenomenon and the very value of life in the theological and dogmatic terms.

What is life? Despite the enormous intellectual effort that has accompanied man since ancient times, life seems to resist all attempts to enclose it in words, concepts, or systems. One definition cannot be given. Life is beyond our concepts. It is a phenomenon that appears to experience in an undeniable and direct way, and at the same time remains elusive and mysterious. Theology gives an additional and broader perspective on the interpretation of life.<sup>54</sup> In its context, this phenomenon can be classified in three categories: βίος (*bios*) – life in its basic manifestations, ψυχή (*psychē*) – intelligent and conscious life, ζωή (*zōē*) – life that transcends itself. It seems that TC&A artists, although they touch the emotional sphere of the viewer and try to go deeper into the phenomenon of life, nevertheless greatly reduce life to the sphere of *bios*. Even life perceived solely in biological terms can be considered in relation to God and is one of the hermeneutical keys for perceiving reality. Life from the very beginning, already as *bios*, is oriented towards the supernatural. However, all three planes: *bios*, *psychē* and *zōē* cannot be separated. Only such an approach gives a complete picture of life. The life of the *psychē* arises from the *bios* and leads to the *zōē*, which is ultimately fulfilled in its transcendental function.<sup>55</sup>

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<sup>53</sup> Cf. Vaage, “What Ethics for Bioart?,” 97.

<sup>54</sup> In 2018, a research team established at the Institute of Dogmatic Theology at John Paul II Catholic University of Lublin, of which the author of this article was a member, undertook a research work on the phenomenon of life. The project entitled *The Phenomenon of Life in an Interdisciplinary Perspective: Theological Diagnosis of the State of Research* became an impulse to undertake further research on the subject, which is also included in this article.

<sup>55</sup> A detailed interpretation of biological and mental life in terms of *vestigium* and *umbra Dei* can be found in the articles: Duszek, “Theological Insight,” 59–72; Pędrak, “Umbra Dei,” 87–100.

The next question that arises in the theological analysis of the TC&A project is: is not creating semi-living beings transgressing subsequent fundamental boundaries? On the one hand, bioartists want to put themselves on an equal footing with other creatures, go beyond the ontological status of man, and on the other, they put themselves in the place of God, creating life in conditions resembling natural ones. John Paul II clearly emphasizes the difference between the Creator and the Craftsman: “The one who creates bestows being itself, he brings something out of nothing – *ex nihilo sui et subiecti*, and this, in the strict sense, is a mode of operation which belongs to the Almighty alone. The craftsman, by contrast, uses something that already exists, to which he gives form and meaning. This is the mode of operation peculiar to man as made in the image of God.”<sup>56</sup> Every man is exposed to the oldest devilish temptation of “wanting to become like God.” It seems that bioartists do not do this intentionally. The fascination with creating life probably obscures them with the truth about the only Creator.<sup>57</sup>

The basic question about many aspects of life, then, is this: should we do certain things just because we can, because we can do them? According to Gadamer, every artwork, just like a literary work, “says something,” cannot be isolated from the environment in which it functions. And this is not necessarily about aesthetic or esoteric experiences, but rather about stimulating an understanding of oneself and one’s place in the world. The artworks should lead to “truth” so that the effects of experiencing these works can be integrated into the totality of human self-understanding.<sup>58</sup> It is evident from the reception of the viewers of TC&A-type exhibitions that such an approach to life carries content, it evokes in them this conviction that what they see is not some tissue or cell – “it is life.” Such assemblages often evoke ambivalent feelings in viewers, which can

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<sup>56</sup> John Paul II, *Letter to Artists*, no. 1.

<sup>57</sup> This can also be seen in the “killing rituals,” when humans give themselves the right to create life and kill it when it is no longer “needed” by them. Calling the created cells “redeemers” for the salvation of the human condition also seems to be a dangerous effort and places the artist in the role of God.

<sup>58</sup> Cf. Dybel, *Gadamera myśl o sztuce*, 11.

stimulate thinking about what life is. However, do they tell the “truth” about life?

A final issue to note is the terminology relating to “time” for semi-living organisms. It seems that the term *καιρός* (*kairos*) was taken from philosophy, it means moment, elusiveness, immeasurability, and uncountability. Sophocles, speaking of *chronos* and *kairos* time, noted that during the course of *chronos* there are moments characterized by some unique features that allow them to be distinguished from the monotony of time. It is *kairos* that is the time that “comes” and at the same time never returns.<sup>59</sup> These artists compare “this time” to the messianic *kairos*, in which ethical decisions cease to apply, it is the messianic time, calling for the creation of a new ethics. For Agamben, as already noted in the discussion of the problem, this messianic time has the power to transform, end chronological time, and turn it into the eschatological time of eternity. It is the “in-between” time that is completely transformed.

It is true that bioartists call this time the *biological kairos*, but when interpreting the terminology they use from the theological point of view, it can be seen how they move on the slippery ground. For the theologian, the messianic time is associated only with the *kairos* of Christ. It indicates the times by which Jesus’ activity on earth is marked. *Kairos* urges the call to repentance (Luke 13:1–5), to reconciliation (Luke 12:58–59). It is the time which Jesus himself refers specifically to his passion: “My appointed time [*kairos*] is near” (Matt 26:42). It is the time when mankind’s redemptive work was fully accomplished, thereby making it a central *kairos* in God’s plan of salvation.<sup>60</sup>

Is it right in transgenic art to invoke a messianic understanding of *kairos* for the existence and killing of semi-living beings? For many people it remains an issue more or less stimulating to reflection. From a theological point of view, this parallel seems an abuse, and certainly does not add credibility to this kind of art.<sup>61</sup>

<sup>59</sup> Cf. Bielawski, “Χρόνος (chronos) – καιρός (kairos) – αἰών (aion),” 67.

<sup>60</sup> Cf. Bielecki, “Nowotestamentalne ujęcie,” 60–61.

<sup>61</sup> A similar impression can be applied to the created oncomouse, which the bioartists call the scapegoat, and the Christian figure that will be sacrificed (like

## Conclusions

Life is an absolute gift from God, who is the only Creator and the one who sustains this life. The purpose of this article was to recall this fundamental content in the context of the new and constantly evolving transgenic art. Bioart is a multi-faceted art, therefore the article examines from a theological perspective the phenomenon of creation and manipulation of life of three selected groups: Eduardo Kac's projects, performance by Art Orienté Objet and Maja Smrekar, and the *Tissue Culture and Art Project*. In their interpretation, attempts were made to answer the initial questions, but most of all to stimulate reflection on the phenomenon of life, on the place of man in the world and on the limits of humanity. Certainly it should be emphasized that the language of art and the language of theology are two different ways of expression. Bioart is also about the expression of life, only described in a different, perhaps more controversial language. It contains the symbolism of multi-faceted life.

The article asked, among other things, the question: does transgenic art have the right to create life only because it can do it? It is wondering that bioart, by invoking the right to freedom of expression in art, raises controversy not only from the religious side, but also from the ethical and scientific side, and even from art experts themselves. From the theological perspective, attention was paid to the effects it brings, both in subjective opinion and in the understanding of fundamental theological truths. It is noticeable that it is bioart that repeatedly enters theological terminology, refers to the Bible and Christian figures, not fully understanding their meaning, but rather caricaturing them. In such a context, theology must always stand on the side of truth and defend fundamental boundaries. It is essential to have a good understanding of dogma, which preserves the historical experience of the Church. Dogma has a corrective and purifying function, it corrects what leads to a discontinuity between faith and reality, in order to indicate a more perfect way of uniting them.<sup>62</sup> From this perspective, the attempt to assess theological

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Christ) to find a cure for breast cancer and save many women and other mammals. Cf. Žukauskaitė, "Hybrids," 35.

<sup>62</sup> Cf. Woźniak, "Dogmatyka," 31.



creation in transgenic art may in the future become an inspiration for further research by moralists and ethics.

While interpreting the transgenic projects, the foundations of protology and theological anthropology were also recalled. God is not an element of the world, but its foundation. God exists in everything that is alive and constitutes the horizon of biological life, being its cause, purpose and revealing meaning. The ideas contained in the cited bioart projects pretend to blur interspecies boundaries, to abolish the highest ontological status of the human person among other beings. In the light of theology, it is not acceptable either for man to take the place of God or for man to be compared to other creatures. Man was only created in the image and likeness of God. Man is distinguished from other creatures by the fact that the man unites in himself or herself all three spheres of being: material, mental, and spiritual.<sup>63</sup>

Man as the only creature can respond to the Creator's love in full freedom, can love, trust, and believe. And the mystery of man is revealed even more fully and shows man's special vocation in union with the Incarnate Word who, coming into the world as a man, raised human nature to the highest dignity. Any attempt to abolish this foundation strikes at humanity, but also at the very work of the Creator. It cannot be unequivocally stated that transgenic art is opposed to humanity. The projects described in the article are controversial, provoke reflection on the place of man in the world, in a sense they aim to answer the question – "Who I am." Bioart can become dangerous when its interpretation is completely separated from the function that art is supposed to fulfill – if it ceases to lead to "truth."

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<sup>63</sup> Cf. Hobson, *Imago Dei*, 153–154.

## Teologiczne spojrzenie na zjawisko kreacji w sztuce transgenicznej

**Abstrakt:** Bioart lub sztuka transgeniczna to nowa i szybko rozwijająca się forma działań artystycznych wykorzystująca techniki inżynierii genetycznej w celu stworzenia nowej, unikalnej formy życia. W artykule zostaje podjęty temat kreacji i manipulacji życiem na przykładzie trzech typów projektów sztuki transgenicznej: prac Eduardo Kaca, *performance* i tworzenia organizmów półżywych. Głównym celem artykułu jest przedstawienie zjawiska bioartu na tle fundamentalnych treści dogmatycznych dotyczących stworzenia i człowieka, a następnie wyciągnięcie teologicznych wniosków. Poruszane kwestie dotyczą granic międzygatunkowych, ingerowania bioartystów w życie oraz miejsca człowieka w świecie. Analiza i namysł o takim charakterze ukazuje transcendentálny charakter życia w aspekcie jego stworzoneości w odniesieniu do Boga, stawia na pierwszym miejscu fundamentalne prawdy, nawiązuje do terminologii teologiczno-biblijnej oraz ukazuje antropologię teologiczną jako najwłaściwsze miejsce dla zrozumienia istoty życia.

**Słowa kluczowe:** bioart, życie, stworzenie, Stwórca, antropologia teologiczna

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