Mariusz Mazurek

THE PROBLEM OF EXISTENCE OF VIRTUAL OBJECTS FROM THE PHILOSOPHICAL PERSPECTIVE

ABSTRACT

I consider the problem of existence of virtual objects, mainly their mode of existence, while omitting the issue of the criteria of their existence. I present and analyze the concepts of modes (forms, kinds) of existence of virtual objects proposed in the literature of the subject, and then I demonstrate my own position on the issue. My position on the existence of virtual objects has certain points coinciding with the already postulated views, but at the same time it differs from them in some basic aspects. In my view virtual objects are "born" in human individual consciousness as the objects of specific creative states of the mind. So initially they are private objects belonging to the individual subjective sphere. However, their final and ready forms emerge in complex processes of objectifying and autonomizing the respective private conscious states and their objects. In these processes the private objects are transformed into objects intersubjectively accessible and existing in the collective cultural sphere. In both their forms, initial and final, virtual objects are non-material entities: first subjective, then objective. The ontic status of virtual objects is very similar to the status of intangible ideas and all the non-material objects created by the human mind. The main difference consists in that virtual objects are expressed by the use computers programmes, while other non-material objects created by human beings are expressed by use of words, pictures, literature and art works, etc.

Keywords: ontology, virtual existence, virtual objects, artefacts, fictions.

VIRTUAL OBJECTS AS IMMATERIAL ENTITIES. MICHAEL HEIM'S POSITION

Michael Heim in his work *The Metaphysics of Virtual Reality*[1] describes and analyzes in detail the concepts related to virtual reality, such as: virtual, virtual reality, and virtual environment or virtual world. These terms are related to Heim's concepts of virtual entities and the primary world. When

---

[1] M. Heim, *Methaphysics of Virtual Reality*, Oxford University Press, Oxford 1993.

presenting Heim's concept, it is worth recalling the etymology of the very notion of virtuality, which comes from the Latin *"virtus"*—meaning virtue, strength, valor. "Virtual" means not existing in the empirical reality, but can exist—being potential and possible. The concept of virtuality in its general meaning is related to the auxiliary terms, such as: apparentness, imaginability, invisibility. The meaning of adjective "*virtualis*" would correspond to the meaning of today's adjective "potential," i.e. carrying the possibility of realizing some action (both adjectives contain Latin stems meaning power and strength—*virtus* and *potentia*).[2]

The essence of the virtual object is that it does not exist in a material way, but still functions in the reality accessible to the human senses. The virtual character of an entity or object means that its image or effects can be perceived by our senses, but not the entity or object as such. With the emergence and spread of computers the term "virtuality" began to be commonly used in the context of information technology rather than philosophy. This notion is particularly related to the development of the so-called virtual memory. In the case of computers, e.g., virtual memory can be part of the RAM. The expansion of memory does not require an additional space on the hard disk when using it. A virtual disk can be used in the same way as a hard disk, but it does not have its physical limitations. As computers have continued to evolve, especially the spread of the Internet, the term "virtuality" has expanded its meaning. Analogous to the concept of virtual disk, any entity or object is referred to as virtual when it functions in a manner devoid of the dimension of materiality.

The ontological consequences of this state of affairs directed the author of *The Metaphysics of Virtual Reality's* attention from computer science to philosophy, from which the term "virtuality" is derived.[3] A special role in Heim's analysis falls to issues central to the dispute over universals that took place in the Middle Ages. As Heim writes, the debate about virtual existence runs throughout the history of philosophy, but it gained particular significance in the writings of John Duns Scotus, whose views were a response to the system of Thomas of Aquinas, who referred to St. Augustine.

According to Heim, Duns Scotus created the discussed notion of virtuality (Latin: *virtualiter*), which is particularly important for understanding the theory of reality created by the medieval philosopher. It refers, in the writings of Duns Scotus, to the way in which form is connected with the physical attributes of things.[4] Thomas of Aquinas argued that the existence of extra-

---

[2] A. Pawłowski, *Wirtualizacja – historia i próba rekonstrukcji pojęcia* [Virtualization—History and an Attempt to Reconstruct the Concept], in: L. W. Zacher (ed.), Wirtualizacja problemy, wyzwania, skutki [Virtualization Problems, Challenges, Implications], Poltext, Warszawa 2013, p. 12.

[3] M. Heim, *Metaphysics of Virtual Reality*, op. cit., p. 132.

[4] Ibidem, p. 132. According to Heim, it was not until the Renaissance that the exclusive status of reality was first attributed to things perceivable by the senses. However, modern science rejects such conditioning of the definition of what is real, proving that the component and basis of reality are things and phenomena intangible to the senses, such as elementary particles or energy.

sensory entities (e.g. God) could be inferred from the facts of sense experience. On the other hand, Duns Scotus, who believed that philosophy should first of all deal with the generalized notion of being, was of the opinion that the knowledge of extrasensory being can be reached only without the testimony of senses and reason, through direct cognition of the essence of this being, which is infinite and brings into existence a universe of finite beings. Being, in Scotus' view, can refer both to God and to the universe of created beings.[5] Thus, in Duns Scotus' view, neither the testimony of the senses nor rational cognition can determine whether any object is called being or whether its existence is rejected. Duns Scotus never separated the notion of essence from existence, as Thomas did, and the notion of being in Scotus' view had a wide meaning—it included "everything that is not a thing," i.e. according to Heim's commentary, everything that exists in any way, also in a disembodied form, i.e. virtually.

According to Heim, the distinctive feature of the contemporary understanding of the term "virtuality" is specifically interdisciplinary. The concept was originated and functioned within philosophy, then entered computer science, and now it returns to philosophy. For this reason it has at least two basic meanings, which—however, in the language of different disciplines—seem to define the same phenomenon. Referring to Plato's thought, and especially inspired by Duns Scotus' definition of being, Heim combines philosophical and IT traditions of understanding the concept of virtuality and postulates calling objects existing in virtual worlds as virtual entities. Generally understood entities in his view are "all objects that can be registered as ontologically present or influencing the world."[6] Starting from this definition, Heim further narrows it down for the purposes of philosophical reflection on virtual reality. The entities that can be observed in this specific environment, which, as Heim emphasizes,[7] need not reflect any entities that exist in the material world, are all virtual objects (avatars, pictorial virtual representations, the so-called agent, i.e. an autonomous *software*-like object that is active in virtual worlds and can spontaneously change, evolve, or "learn").

On the other hand, virtual reality according to Heim, "is […] a specific experience that gives the participant the impression of being in a different place than the one in which his body is currently located."[8] Heim associates the issue of virtual reality with computer technology, treating virtual reality as an area where processes similar to those occurring in empirical reality can take place through the use of three-dimensional digital graphics and electronic devices.[9]

––––––––––––––––

[5] Ibidem, p. 117.
[6] Ibidem, p. 151.
[7] Ibidem, p. 147.
[8] M. Heim, *Metaphysics of Virtual Reality*, op. cit., p. 147.
[9] M. Heim, *Virtual Realism*, Oxford University Press, Oxford 2000, p. 6.

Heim indicates the following characteristics of virtual reality: (1) artificiality—conceived in terms of human presence in cyberspace, e.g., when the user's body and reactions are correlated with computer-generated images to give the impression of presence in the virtual world; (2) interactivity, i.e., the ability to engage into the virtual environment, e.g., by moving the cursor on a computer screen; (3) immersion—namely, using the computer to stimulate sensory experience, e.g., putting a helmet on the head with a screen on which a three-dimensional image appears. At the same time, the way in which the sense of presence and immersion simultaneously interpenetrate remains an open question of research on virtual reality; (4) communication in the network—consisting, among others, in the fact that different users can "enter" at the same time; (5) telepresence (telepresence; from Greek "tele"—"at a distance")—i.e., "presence at a distance"—an operation as a result of which the user feels present in a simulated area of virtuality, although he remains physically present in the material world, while the devices remotely transmit his actions.[10]

A certain shortcoming is that Heim's rather detailed characterization of virtual reality and the objects within it evades—as it seems—a definitive statement what modus of existence they have. It is not even known whether virtual objects are material (although strong suggestions indicate that they are not), and if the supposition of immateriality is correct, then the question arises as to where they are located, where they are present, and how they affect a material user (human). These and other problems that arise here cannot be solved by using the philosophical *instrumentarium* that Heim introduces. On the one hand, Heim invokes Plato's complex and rich metaphysics, but on the other hand, he does not effectively "adapt" it to the concept of virtual objects. The point is that the reference to Plato suggest that virtual objects are something like Platonic ideas. But it is only a suggestion, which is immediately objectionable: a cardinal difference is, among others, that virtual objects are created by man or by computer, while Platonic ideas are eternal, subjective, not founded anywhere.

DO VIRTUAL OBJECTS EXIST IN REALITY?

As regarding its *mode* of existence, virtual reality is treated in opposition to material reality (the natural world), thus the problem of virtual reality's existence is related to one of the oldest ontological problems, i.e. the issue of distinguishing what is real and what is not real. Speaking of real existence, it is meant—as it seems—that what exists in external reality in relation to the mind of the subject creating or operating virtual objects, and thus—as a philosopher from the transcendental current would say—in reality transcendent to the subject.

_____

[10] M. Heim, *Metaphysics of Virtual Reality*, op. cit., pp. 109–110.

According to the definition contained in the Polish Scientific Publishers (PWN) Encyclopedia, virtual reality is understood as:

"... computer programs synthesizing sensations received by human senses (most often sound and image, but also touch), e.g. in flight simulators or computer games. In virtual reality systems, communication with the computer takes the form of visual (creating realistic, stereoscopic images of the simulated environment using computer graphics), audio, and tactile (using physical force to move in and control the simulated environment and to move simulated objects)."[11]

Here the question arises: Does the virtual reality understood in this way have to be created by computer? Is it reasonable to limit virtual objects only to computer creations? Is it advisable to follow a specific set of hardware and software, chosen arbitrarily, in order to define what virtual reality is? It seems that such definitions may become outdated with the development of computer technology and the emergence of new devices. Moreover, they omit the user, who not only handles the computer (operates it uncreatively), but above all creates virtual reality.

There is quite a large consensus of opinions that virtual reality is not a completely new phenomenon. New are only the means (keyboard, screen) by which we obtain, record and transmit information to others in this reality. Jeri Fink, author of *Cyberseduction: Reality in the Age of Psychotechnology*, rightly notes that: "... virtual reality is not a revolution but an evolution, a space occupied by humans since the first awareness of the qualitative difference between mind and body."[12] Theatrical performance, art, literature, and cinema are also ways of generating virtual reality (different from the "ordinary" reality experienced every day), but constructed with the use of other, traditional props. Fictional characters from books, movies, myths, and cultural symbols are also immaterial objects of reality, but constructed with the use of other, namely traditional tools (pen, pencil, paper), making more use of social and cultural contexts. The computer, sheet of paper, typewriter are only instruments, technical ways of expressing the thoughts of the entity that creates these objects, the same tool as the pen. The basis of all this is the human mind that invents and creates them.

If it is assumed that virtuality has little to do with the physical dimension of reality, it is perhaps much easier to relate it to its ideal or conceptual dimension. Fink expresses such suggestions when he writes:

"... the virtual is generally defined as something that exists in the mind without reference to any physical fact, form, or feature. Virtual images are the

_____

[11] https://encyklopedia.pwn.pl/haslo/wirtualna-rzeczywistosc;3996681.html (accessed: 05.12. 2021).

[12] J. Fink, *Cyberseduction: Reality in the Age of Psychotechnology*, Prometheus Books, New York 1999, p. 16.

product of human creativity, insight and imagination. They emerge from conscious or unconscious processes, the activity of which constructs mental images."[13]

Fink also emphasizes that:

"... a proper definition of virtual reality must go beyond simulations. It resembles looking at two mirrors reflecting each other—it is possible to see an endless series of similar images disappearing into infinite space. Logic suggests that this is a flat, hard piece of glass. It actually does not look flat. It does not feel like something flat. But if we touch it, we find a cold, hard surface with no depth, color or philosophy. What is more real? Glass or this image?"[14]

It may be assumed, following Fink, that virtuality is much more related to the ideal than to the material (physical). As long as we are dealing with a private, individual "mental image" of something that does not exist in any other way (already or yet), the "virtual" can mean the same thing as the "ideal," in the subjective sense. On the other hand, where we are dealing with already objectified creations of imagination, intersubjectively accessible and reproduced, for example via the Internet in any number of copies, which—what is important—can be contacted in an interactive way, virtual objects—as can be suspected—acquire additional properties or change their status. They become intersubjectively accessible, non-private objects, which is not the case with subjective mental images in the mind of their creator, i.e. in the immanent sphere.

VIRTUAL OBJECTS AS MIRROR REFLECTIONS

The subject literature includes the view that virtual objects are in many ways similar to mirror reflections.[15] In such case, the criterion for distinguishing the virtual from the real should be found in considerations of distinguishing real objects from their mirror images. The issue of distinguishing real objects from their mirror images has been considered by philosophers for a very long time, definitely longer than the concept of virtual reality exists. Already Plotinus in the *Enneads*[16] analyzed the problem of mirror reflections and claimed that in most cases it is quite easy to distinguish a reflection from a real object. However, he agreed that under certain condi-

_____

[13] Ibidem, p. 22.
[14] Ibidem.
[15] D. Stanovsky, *Virtual Reality*, in: L. Floridi (ed.), The Blackwell Guide to the Philosophy of Computing and Information, Black-well Publishing, Oxford-New York 2004, pp. 167–177.
[16] Plotyn, *Enneady* [Enneads], vols. I–II, A. Krokiewicz (trans.), PWN, Warszawa 1959, pp. 204–269.

tions (if the reflection in the mirror is permanent and the mirror alone cannot be seen) these reflections can deceive us.

It is easy to distinguish an object from its image in the mirror. This is because such a reflection is transient, fleeting, temporary, impermanent in time, and sometimes even inconsistent with other perceptual impressions. Moreover, in most cases the mirror does not go unnoticed; its structure, which reflects light, and its frame are visible. Moreover, the objects in the mirror are always depicted on a plane, and thus touching them makes it possible to distinguish the object from its reflection. It seems that virtual reality is more complex than mirror images and in some aspects different. The objects in it are not usually confined to a two-dimensional graphic, as is the case with the image reflected in the mirror, nor are they impermanent – they can last as long as real objects or events. Moreover, the mirror reflects only objects that exist in the present, while virtual reality objects may not have their real counterparts, they may exist only in virtual reality. Fictional characters in computer games do not copy any real objects, but are only creations of the human mind realized with computer techniques. Therefore, the concept, semi-metaphorical, of mirroring is not a satisfactory solution to the issue regarding the existence of virtual objects.

VIRTUAL OBJECTS AS SIMULATIONS

The word "simulation" is derived from the Latin *simulatio*, which means "pretense," "a false representation of reality in order to mislead someone."[17] Colloquially, simulation is understood as imitating, mimicking, or replicating some original. In a particular case, simulation can be manipulative, when the imitated behaviors or roles are intended to falsify the image of reality. In a colloquial sense, simulation is merely an effort to fully conform to the original.

Virtual objects are often treated as computer simulations of real objects.[18] Simulation is then defined as an approximate reproduction of a phenomenon or behavior of a given object by means of its model. In this sense, a special (modern) kind of model is a model written in the form of a computer program, but it sometimes happens to use a physical (not virtual) model at scale.

It is reasonable to claim that computer program is a scheme of thinking, possibly of inference, of processing information realized with the use of

---

[17] Z. Rysiewicz, *Słownik wyrazów obcych* [Dictionary of Foreign Worlds], Warszawa 1955, column 694.

[18] A. Latawiec, *Rola symulacji w kreowaniu świata wirtualnego* [The Role of Simulation in Creating the Virtual World], in: A. Kiepas, M. Sułkowska, M. Wołek (eds.), Człowiek a światy wirtualne, wirtualne [The Human Being and Virtual Worlds], Wydawnictwo Uniwersytetu Śląskiego, Katowice 2009, pp. 50–58.

a computer. It could also be argued that it is not human thinking, but computer thinking—artificial intelligence. For example, a virtual object is a bridge design formed in a given program, but not, as it seems, that such an object is a representation of a program. A computer program is a tool (scheme for producing) virtual objects. This object is not a simulation of any existing object, but a design of such an object. In other words: it is a simulation of a potentially existing object.

Apart from the colloquial understanding of simulation in science, the term has many other meanings. Anna Latawiec divides it into two groups.[19] In addition to the already mentioned reproduction of the original material object, usually derived from empirical reality, simulation is referred to as a method of investigating reality by a specific algorithm. It consists in verifying or discovering features of reality using its immaterial model in virtual reality. In order to verify a certain phenomenon or process, usually not directly verifiable (e.g. the danger of spreading a virus), their immaterial model is created, which is subjected to verification in a computer environment (after writing an appropriate program, running it, verifying and interpreting its results). It is a kind of experiment in which the features of reality, but not of the virtual world, are discovered—this kind of simulation occurs in the imagination, e.g. at the creation of a research project.

In relation to simulation in the first sense (representation of reality), a man cannot act as a creator of virtual reality, but only as a reproducer. However, in relation to simulation in the second sense (creating a model and experimenting on it), the man is a creator of the virtual world—such a situation occurs in the case of film scripts, works of art in the project phase, musical works, computer games, thoughts, imaginations realized by means of visualization. The virtual world understood in such a way is a work of man, but the source of its creation is not only technology and knowledge about the known reality, but also the creator's own experience, the world of dreams, imagination and fantasies. Due to the fact that our knowledge about reality changes over time, the virtual reality evolves as well. From this we can conclude that the primary source of virtual reality is empirical reality (or the world of abstract objects, concepts, ideas) and the secondary source is the world of thought.[20]

Simulation is also defined—more specifically, more narrowly—as "the reproduction of properties of real objects in a digital environment,"[21] where "a perfect simulation is one that makes it impossible to know that we are

_____

[19] Ibidem, p. 54.
[20] Ibidem, p. 56.
[21] J. Gurczyński, *Czym jest wirtualność. Matrix jako model rzeczywistości wirtualnej* [What is Virtuality. Matrix as a Model of Virtual Reality], Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2013, p. 125; See: D. Chalmers, *The Virtual and the Real*, Disputatio, 9 (46), 2017, pp. 309–352.

dealing with a simulation."[22] The concept of simulation is most often associated with systems called simulators (flight simulators, driving simulators), in which a faithful representation of reality is even essential.

If simulation is understood as imitating, mimicking or replicating some original, then it becomes problematic to define the case when there is no such original, i.e. when virtual objects or events do not have their real counterparts. As Richard Crandall and Marvin Levich[23] note, in virtual experiences we are dealing with real simulations and sometimes with fictional ones. A flight simulator—as its name implies—simulates actual flight. In contrast, experiences with fictional characters in virtual reality have little to do with experiencing reality (realness). It is also pointed out that what is attempted to be simulated in virtual reality are not only the objects as such, but also the occurrence between the perceived object and the cognitive entity of certain conditions under which the entity will experience it in a manner similar to that in which it experiences in reality.

Assuming that virtual objects are simulations of real objects, new questions arise that need to be answered. How and where do virtual objects arise? What is their ontic status? Are they as real as the objects of the world around us? From a materialist point of view, virtual reality is just a product of circuits and wires. However, it can be understood more broadly, not limited to the realm of technology: "... the virtual world consists not only of computer productions [...] but also of the world of art, movies, music, computer games, research projects, thoughts, and imaginations realized through visualization.[24]

It is worth noting that this understanding of the simulation concept is not a new phenomenon. Simulations of certain phenomena are simply well-known representations from empirical sciences. The way they are created—by means of a computer—is not particularly important.

Moreover, simulations understood as representations of phenomena that do not exist yet but will exist in the future (either as human creations or as predictions of future events), also in this computer simulation, are not a new phenomenon at all. Earlier, when there were no computers, weather forecasters used a piece of paper and a pencil, but the principle was the same: they took the current weather condition, wind directions, pressure levels and applying the laws of physics (more precisely geophysics, including meteorology) when calculating, they deductively gave the weather condition for the near future. Therefore, the computer plays here the role of only a faster and more efficient calculating and thus forecasting instrument.

---

[22] Ibidem, p. 126.

[23] R. Crandall, M. Levich, *Virtual Reality, And All That*, in: A Network Orange. Logic and Responsibility in the Computer Age, R. Crandall, M Levich (eds.), Springer, New York, 1998, pp. 85–107.

[24] A. Latawiec, *Rola symulacji w kreowaniu świata wirtualnego* [The Role of Simulation in Creating the Virtual World], op. cit., p. 53.

Finally, it is worth noting that in recent years quite popular is the concept of augmented reality[25], referring to computer mediated experience in which the signals coming from the real physical world are supplemented by virtual signals in real time, performing simulation functions. Appropriate synchronization and coordination enable, e.g., a surgeon to operate on a live patient using a computer simulation of invisible internal organs. The opposite situation is also possible: a medical student, using an authentic scalpel, can operate on a virtual patient and thus gain experience.

VIRTUAL OBJECTS AS FICTIONS

Virtual objects (particularly characters from computer games, books, and myths) share many characteristics with fictional objects.[26] Fictional objects are usually understood as characters, objects or events that appear in myths, literary or film works (Zeus, Pegasus, Sherlock Holmes, the flying carpet).[27] Fictional objects are contrasted with real, actual objects (e.g., historical figures).

As Jacek Gurczyński notes:

"... fictional objects are necessarily non-existent (real) objects, but this claim should be distinguished from the assertion that fictional objects have no ontological status. The basic assumption that allows to grant fictional objects some existential status [...] is Franz Brentano's thesis that every act of consciousness has an object, i.e., in other words, every act of consciousness is intentional. Whenever we speak, we talk about something, our fantasies are about something, we look at something, we think about something—any conscious experience is always 'consciousness of something'."[28]

The property that distinguishes virtual objects from other fictional objects is the interactive mode of telepresence of the former. Interactivity is a broad phenomenon, occurring not only in relation to computer technologies. We also deal with it during videoconferences, in radio and television programmes using, e.g. telephone or audiovisual communication with the audience.

_____

[25] See: T. Metzinger, *Why Is Virtual Reality Interesting for Philosophers?* Frontiers in Robotics and AI, 5, 2018, pp. 101-120.

[26] https://plato.stanford.edu/entries/fictional-entities/ (accessed: 05.12.2021).

[27] https://plato.stanford.edu/entries/nonexistent-objects/ (accessed: 05.12.2021). It is worth to note here that the authors do not refer at all to older, classical concepts of existence—which is surprising—and they conduct their considerations mainly on the basis of works from the last few decades, which are limited to modern concepts, very specialized, above all, deeply entangled in logic, and not in classical philosophical solutions. Meanwhile, the problem of existence has been present in philosophy since the time of Plato.

[28] J. Gurczyński, *Czym jest wirtualność. Matrix jako model rzeczywistości wirtualnej* [What is Virtuality. Matrix as a Model of Virtual Reality], op. cit., p. 183.

Piotr Sitarski describes it in a similar way, claiming that the most important distinctive feature is the interactive way of obtaining the feeling of telepresence, thus emphasizing that such a feeling may be obtained in many ways. This author writes:

"Thus, the specificity of virtual reality is that the impression of being in another world is achieved through the interactivity of the system. The user feels present in the mediatized environment not as a result of sensory illusion or narrativization, but as a result of the possibility of action, analogous to action in the normal world. Virtual reality is based on interaction that immerses the participant in a fictional world."[29]

Virtual objects, like fictional and real objects, are intersubjectively accessible—they are not private experiences of the entity, such as dreams. Perceived from the outside, they are also characterized by two levels of determination. Consider, for example, computer game characters. They are characterized by two types of features: internal as elements of the virtual world (game world)—appearance, character traits, skills, gender, etc.—and external, attributed to them from the perspective of reality (outside the game)—being an object of the game, being virtual, being created by the creators of the game. According to Gurczyński, this two-level determination can be generalized: "whenever the world s_2 is superstructured over (is ontically dependent on) the world s_1, then objects from the world s_2, perceived from the level of the world s_1, will be characterized by a two-level emplacement."[30] Then this characteristic is a common property of fictional and real objects.

The objects of computer games change as they are manipulated by the player (according to the rules set in the program that defines the game rules). A computer game can be compared to a movie (moving pictures). One of the main game attractions is the ability to stop time at any time and speed it up to achieve certain goals faster. Time can flow just like the real one, but it can also be reversed, allowing you to cancel selected events that have already occurred.

However, there is a difference—games, unlike movies, are to a greater extent interactive, i.e. their user constantly participates in their course and has influence on what is happening. The user shapes the game course within the set rules (he can make only such interventions in the action that are designed). The person watching a movie is passive, while the player continually creates the plot of the computer game, because games, unlike movies, are

---

[29] P. Sitarski, *Rozmowa z cyfrowym cieniem. Model komunikacyjny rzeczywistości wirtualnej* [Conversation with Digital Shadow. A Communication Model of Virtual Reality], Rabid, Kraków, 2002, p. 42.

[30] J. Gurczyński, *Czym jest wirtualność. Matrix jako model rzeczywistości wirtualnej* [What Is Virtuality. Matrix as a Model of Virtual Reality], op. cit., p. 199.

interactive, their very essence is the participation of players (their participation in virtual reality), and this causes players to accept the game and virtual reality in general as equally real and of the same ontic type as their everyday lives. It is worth noting here that we come to a certain paradox, as from the point of view of the criterion of interactivity—that what is virtual is sometimes more real than that what is physical.

In the case of movies, the carrier of content (storyline) is film stock, and nowadays it is a camera and an electronic medium (e.g. a computer disk or a telephone disk). The material medium of a computer game, on the other hand, is a computer or other device (telephone). They are the material means of transmission and dissemination of content, film plot, etc.

VIRTUAL OBJECTS AS ARTIFACTS

The identification of the category of virtual objects with the category of artefacts usually means that virtual objects as artefacts belong to the artificial world created by man who is separate from the natural world. Therefore, it should be assumed that they are also separate from nature.[31] This position is proposed, among others, by Józef Lubacz and Krzysztof Brzeziński, for whom "virtuality and its objects are artifacts, i.e. intentional creations of people."[32] Despite the fact that the ways of creating virtual objects and material artifacts are similar, i.e. man-made, the ontic status of both types of objects seems to be different.

Risto Hipelin states that the artifact is "an object that has been created or produced for a given purpose."[33] Etymologically, the word "artifact" comes from Latin words "*arte*" ("skill," also "art," "technique") and "*factum*" ("to make"). Artifact is a concept that is increasingly being used in both aesthetics and technology, and is more likely to refer to material objects (e.g., works of art, telephones). Recently, the concept of artifact has been introduced into epistemology;[34] in general, it becomes more fashionable, and its scope successively increases. The *Mirriam-Webster Dictionary* states that an artifact is a characteristic product of human activity. Artifacts may include tools,

---

[31] M. Krueger, *Artificial Reality II*, Addison-Wesley Publishing Company, Massachusetts 1991; E. Margolis, S. Laurence, *Creations of the Mind. Theories of Artifacts and Their Representation*, Oxford University Press, Oxford-New York 2007; P. Sitarski, *Rozmowa z cyfrowym cieniem. Model komunikacyjny rzeczywistości wirtualnej* [Conversation with Digital Shadow. A Communication Model of Virtual Reality], op. cit., p. 42; M. Heim, *Virtual Realism*, op. cit., p. 6; idem., *The Metaphysics of Virtual Reality*, op. cit., p. 131.

[32] K. Brzeziński, J. Lubacz, *Skąd się biorą przedmioty wirtualne* [Virtual Objects and Where They Come From], in: Przedmioty wirtualne [Virtual Objects], P. Stacewicz, B. Skowron (eds.), Virtual Objects, Warsaw University of Technology Publishing House, Warsaw 2019, pp. 11–23.

[33] https://plato.stanford.edu/archives/sum2018/entries/artifact/ (accessed: 05.12.2021).

[34] M. Trybulec, *W stronę epistemologii artefaktów poznawczych* [Towards the Epistemology of Cognitive Artifacts], Filozofia i Nauka. Studia filozoficzne i interdyscyplinarne, 9, 2021, pp. 195–223.

works of art, especially archaeological objects.[35] Artifacts are also defined as something created by humanity, which does not belong to nature, which is not nature.[36]

If we accept the standard definition of artifacts as material objects, then identification of virtual objects as artifacts seems to be incorrect (artifacts are material, and virtual objects are immaterial). In the broadest sense of the term "artifact," the class of artifacts is rich and diverse. As a result, including virtual objects in this class does not tell us much, especially if it is not clear whether the artifacts are material or immaterial as well. If man-made immaterial objects are also included in the set of artifacts, then it can be argued that virtual objects are artifacts, and form its special class. However, the mere inclusion of virtual objects in the (extended) set of artifacts is not very informative, because—it does not indicate the specificity of virtual objects that differentiates them from other artifacts, in other words, it does not specify its subtype among the whole kind of artifacts. It would be necessary here to specify the attributes that differentiate them from other artifacts. Otherwise, saying that virtual objects are artifacts (in these extended senses) is to state the obvious, which in fact provides little information about the existence of virtual objects. If, on the other hand, only specific, i.e. man-made, material objects are considered artifacts, then virtual objects are not artifacts at all. Such a classification is erroneous.

Already Aristotle divided and described the difference between what exists naturally and artificial creations created by other causes, noting that:

> "'By nature' exist animals and their parts, as well as plants and simple bodies, such as earth, fire, air, and water—as these and the like are said to exist 'by nature.' It further appears that all the things mentioned are different from those which are not products of nature. For every object of this kind bears a principle of motion and rest: some due to place, others due to growth and decay, and finally others due to qualitative change. On the contrary, a bed, a robe, and other things of this kind, insofar as they are entitled to such general predicates, and insofar as they are products of craftsmanship, do not reveal any natural tendency to change. However, if by chance they are made of stone or of earth or from a combination of both, then they reveal such a tendency, but only in this respect: indeed, 'nature' is the principle and intrinsic cause of movement and rest in things in which it exists intrinsically and not accidentally."[37]

Although the contemporary concept of artifact can be understood more broadly than Aristotle proposed (who, of course, did not use this term), his

---

[35] https://www.dictionary.com/browse/artefact (accessed: 05.12.2021).
[36] https://www.merriam-webster.com/dictionary/artifact (accessed: 05.12.2021).
[37] Arystoteles, *Fizyka* [Physics], Księga II [Book II], K. Leśniak (trans.), Warszawa 2010, pp. 87–88.

observation, pointing to two kinds of material things, has not essentially lost its validity.

Currently, attention is paid mainly to the problem of intention and subject (author) than to the way of existence, although both approaches are related. Risto Hilpinen, referring to the term proposed by Wendell Oswalt, naturefacts, which refers to "things existing by nature," proposes a dichotomy similar to the Aristotelian one, pointing to the existence of artifacts that are the result of human activity. He notes that the creation of something requires an intentional action—with the term "intentional" being understood as a conscious action with a specific purpose.

> "Technical artifacts, such as typewriters, hammers, copying machines, or computers, differ from social artifacts—such as laws or money—in that the realization of their function depends fundamentally on physical structure. They also differ from physical or natural objects in that they are produced intentionally and used by human beings to achieve certain goals."[38]

Artifacts so defined have two essential characteristics: (1) they are material objects the properties of which determine the performance of a function, and (2) they have been produced for certain purposes. Therefore, it can be stated that they have a dual nature. It seems to be a common belief in the literature that artifacts have such a dual nature.[39] On the one hand, they are material, their structure providing the possibility to perform certain functions, while on the other, these functions refer to something immaterial— human intentions. It should be noted that this identification of artifacts as both material and intentional objects is problematic. Something that is created intentionally can be both material and immaterial. It is possible to narrow the extensiveness of an artifact to material objects only, as proposed, e.g., by Wendell Oswalt in one of his definitions, according to which an artifact is "an end product resulting from the modification of a physical mass in such a way that it can fulfill a purpose and become useful." Such a general definition that an artifact is "an object created intentionally or for a specific purpose" raises problems. An object that has been created intentionally can be both material and immaterial in nature. From the anthropological research point of view, which was the subject of his interest, it may be adequate, but from a philosophical perspective it seems far too narrow. It is possible to make a general statement that what cannot be defined as a natural kind (understood broadly) is an artefact, thus also an immaterial product.

_____

[38] P. Kroes, A. Meijers, *The Dual Nature of Technical Artefacts*, Studies in History and Philosophy of Science, 37 (1), 2006, p. 1.

[39] L. R. Baker, *On the Twofold Nature of Artefact*, Studies in History and Philosophy of Science, 37, 2006, pp. 132–136; W. Houkes, A. Meijers, *The Ontology of Artefacts: The Hard Problem*, Studies in History and Philosophy of Science, 37(1), 2006, pp. 118–131; P. Kroes, A. Meijers, *The Dual Nature of Technical Artefacts*, op. cit., pp. 1–4.

Amie Thomasson highlights this point, indicating that the role of human intention in the process of creating artifacts is different from that of creating social and institutional objects. Unlike the latter, the existence of an artifact does not assume any collective intention[40], but it is necessary that the action (leading to the creation of artifact) be conscious. Although Thomasson does not deny the possibility of the existence of artefact's essence, he points out that in the case of artifactual kinds it is constituted precisely by the intention of their creators, which clearly distinguishes them from natural kinds.[41]

It is also worth noting that in contemporary analytical philosophy, the above problem is also discussed, as by A. Thomasson, in the form of referring to the terms "natural kind" and "social kind." The first of these terms is used in many contexts and its use is controversial. Basically, it refers to classes of naturally existing elements of reality, studied by natural sciences.[42] Artifacts can thus be considered social types in the sense that they are produced by society. It is easy to recognize that such a term is quite close to Aristotle's conception.

However, no universally accepted theory of artifacts has been developed that would combine both of their inherent aspects: material and intentional (functional). The greatest difficulty of existing concepts seems to be definition of the concept of artifact function. After all, on the one hand, if one understands function as possible in material objects, the question arises how this function is related to states of human mind. However, if to assume that function is a certain state of mind, then it exists only in the imagination of designers and users of artifacts. Then it is difficult to explain how it is related to the material substance that makes up a particular artifact. Hence, the notion of an artifact's function is a key concept for its description, linking the material and intentional domains.[43]

In summary, if it is assumed that artifacts are immaterial man-made objects (like all cultural creations), then the specificity of these objects is not given and the concept of artifice is not a differentiating feature. It is also false to assume that they have an author—they are often nameless creations that have been created by someone—it does not matter that they are human creations (for example, mythical figures do not have an author—they grow out of tradition and culture, were passed down through word of mouth, and then passed on by others—they do not have a specific author, and there are often many creators of an artifact).

In general, it is unacceptable to attribute a material form to virtual objects. It seems that this misidentification of virtual objects as artifacts results

---

[40] A. Thomasson, *Artifacts and Human Concepts*, in: Creations of the Mind, E. Margolis, S. Laurence (eds.), Oxford 2007, p. 52.
[41] Ibidem, p. 53.
[42] https://plato.stanford.edu/archives/win2016/entries/natural-kinds/ (accessed: 05.12.2021).
[43] P. Kroes, *Technical Artefacts: Creations of Mind and Matter. A Philosophy of Engineering Design*, Springer, Dordrecht 2012.

from confusing them with images (e.g., on computer screens), depictions in the material world.

> "The [virtual – MM] object is one of the elements of produced implementa-
> tion. It can be passed on for further use in a permanent tangible form (an im-
> age in a frame), or in a form hidden in the construction of other elements of
> the implementation, and physically appear when these elements are used (an
> image on a computer screen, which first had to be turned on and run the ap-
> propriate program on it)."[44]

The quotation is a statement in favor of material existence of virtual objects. However, it is worth noting that the sense of this statement is not unambiguous. It can be interpreted as a statement in favor of permanent material existence of virtual objects (it has a permanent tangible form, the authors write) or conditional material existence (it becomes physical when it appears on the computer screen at the moment when we turn on the computer and run an appropriate program). Whereas when, it may be added, the computer is switched off, the virtual object loses its material modus of existence, but it is not known whether it passes into another way of existence. As can be seen, the declaration concerning material existence of virtual objects leads to difficulties, which—not difficult to show—are growing in the course of their further consideration.

VIRTUAL OBJECTS AUTONOMIZED (OBJECTIFIED) PRODUCTS OF CONSCIOUSNESS

The standpoint on the existence of virtual objects that I propose has some convergence points with the views already presented in the subject literature, but I add important aspects to them. Signally, I consider the genesis of virtual objects in human individual consciousness, and their final, ready-made form emerging in the process of objectification of relevant consciousness states. This objectification is accompanied by the autonomization of virtual objects—they cease to be the private property of the individual human subject, who is the creator of the virtual object.

The ontic status of virtual objects is similar to the status of immaterial ideas that appear in the mind of the subject who produces them. It can be stated that an idea, which is an element of knowledge or its immaterial subject, represents an object that does not exist at the moment of its creation, but is an object, an entity, a potential or pure form in the sense already formed by the Greek philosophers.

The virtual object is created by the subject and in the first phase of creation process it is a subjective invention of the subject, a private object of his

---

44 K. Brzeziński, J. Lubacz, *Skąd się biorą przedmioty wirtualne* [Virtual Objects and Where They Come From], op. cit., pp. 19–20.

consciousness, inaccessible to anyone except the creator, i.e. existing only in the private immanent sphere—as transcendental philosophers would say. Then there is an objectification process of this invention and, at the same time, its autonomization. This phase is based on the communication of the subjective creation to other subjects. In this communication, the desubjectivization of the virtual object takes place. In the course of intersubjective communication it penetrates into the consciousness of other subjects and thus loses its character of an exclusively private object, belonging only to the consciousness of its creator. It becomes the property of other subjects, participants in the communication process, penetrating into their consciousness, and finally a common, collective property. After dissemination and desubjectivation (i.e. after the information about the virtual object has been communicated to other subjects) the object of individual consciousness of the subject-creator becomes independent of the creator in a sense that its consciousness is irrelevant to the way it functions and exists. The virtual object exists and functions in an objective cultural reality. It becomes, in a way, a common property of many subjects, eventually also a public property, an object of collective consciousness or, in other terms, an object of the third world—if we use here the notion from Karl R. Popper's conception of three worlds.

When the creator of a virtual object makes the content of the virtual object accessible to other users through communication and dissemination, the object becomes objectified. Inspired by Popper's concept of three worlds cited above, it can be assumed that virtual objects, which in the first phase of their creation are private, subjective objects, autonomize and at the same time objectivize when they become available in the processes of communication by means of computers, including the dissemination of computer programs and content transmitted via the Internet and other computer information carriers. Therefore, in conclusion, there are simultaneously occurring and interrelated processes: desubjectivation, objectivization and autonomization. In these processes, the virtual object is finally formed from the private ideas of individual subjects.

Virtual objects are located in an intangible, objective, man-made world. It can be called the world of cultural objects (in the broad sense of the term "culture"). They affect human consciousness, and thus—by initiating human activity in the material sphere—the physical world. For example, virtual house designs are the basis for building real houses. Virtual objects in computer games influence the users of these games by, among others, increasing their imagination, teaching them, and inducing aggressive behavior.

Virtual objects are realizations of ideas appearing in the individual consciousness of their creators. At first they are immaterial objects, sometimes they are materialized (e.g. a house built according to its virtual design), often they remain immaterial (e.g. characters from computer games). Between

the idea and the immaterial object of this idea there is a relation of representation: immaterial (virtual) object represents the idea. However, when the object of this idea is materialized, it can be stated that this material object represents the idea and at the same time represents its virtual project. Taking this together, it can be seen that there are several mutually different relations of representation: between the idea and the (intentional) virtual object corresponding to this idea, between the virtual object and its material realization, between such realization and the idea.

In this case, representation is a relation between the idea and the corresponding object or, most often, the whole set of objects—both existing and not yet created, but only possible, in the sense that they are designed, i.e. have an idea or model. The set of objects representing a given idea (represented) should include both created objects and potential objects. Therefore the set of objects representing an idea is ontologically complex. It includes objects of two modes of existence: the objects existing at present in virtual reality and the objects existing potentially, which are to be created in the future. This set changes in time, i.e. it is temporal, unstable, changeable, expanding. In other words, objects representing a given idea constitute an open set. It includes realized objects, produced in immaterial form equivalents of the idea, and possible objects, not yet created. The complication is that the represented objects, or ideas, exist in the immaterial world, while the objects representing them exist in material reality and in potential reality.

Certain aspects of the view presented above, i.e. those which proclaim that the virtual world is the work of a man (and not of the computer) as well as the position that it is the human subject who creates virtual objects, can be found in the literature in Elisabeth Reid's views:

> "Virtual worlds do not exist in the technology used to represent them or solely in the mind of the user, but in the relationship between internal mental constructs and technically produced representations of those constructs. The illusion of reality lies not in the apparatus, but in the users' desire to treat the products of their imagination as if they were real."[45]

This is also pointed out by Tadeusz Miczka, who states: "virtual reality is, after all, an artificial creation that exists intentionally because a person wants to endow it with existence,"[46] as well as Anna Latawiec, who claims:

> "By virtual world I mean the image of reality created or discovered by man on the way of intellectual or technical simulation. The world understood in this way is a creation of man. It has its source in widely understood reality. By re-

_____

[45] E. Reid, *Cultural Formations in Text—Based Virtual Realities*, PhD Thesis, University of Melbourne, Melbourne 1994, pp. 6−7.

[46] T. Miczka, *Czysta iluzja i testowanie realności: dwie rzeczywistości wirtualne – dwa uczestnictwa* [Pure Illusion and Testing Reality: Two Virtual Realities—Two Participations], in: Człowiek a światy wirtualne [The Human Being and Virtual Worlds Worlds], A. Kiepas, M. Sułkowska, M. Wołek (eds.), Wydawnictwo Uniwersytetu Śląskiego, Katowice 2009, p. 19.

ality I mean both the empirical reality, which is accessible only to a limited extent to the observer, and 'reality itself,' i.e. existing beyond the observer's reach."[47]

However, in the aforementioned positions of Elizabeth Reid and Anna Latawiec, there is no explanation of how objects become public and in what reality they are located. I believe that some modification of Popper's conception of the third world and the hypothesis of how the process of transition from a private creation to an objectively existing object occurs is a necessary part of the image regarding the existence of virtual objects.

In conclusion, virtual objects are immaterial objects, which in the phase of their creation are private objects of individual consciousness of their creator, and finally—after their desubjectivation, objectivization and thus autonomization (from their creator) are objectively existing objects in immaterial cultural reality. Sometimes the way of existence of virtual objects is confused with the criterion of their existence. At the same time, some philosophers claim that there is no possibility to inquire what existence is (i.e., in fact, what is its modus), as it is an ontological mystery. This is, as it seems, an escape from the problem, and there are, after all, useful inspirations for it in the philosophy of various schools, since antiquity. It is possible to discuss only the criteria of existence, namely, the methodological or epistemic principles by means of which we affirm that something exists—thus not getting into the question of what this existence is and what it consists of. Ancient, medieval, and modern philosophy have developed various deep and elaborate classifications of existence modes.[48] This problem cannot be considered within the framework of a materialist ontology, which postulates the reduction of everything that exists to material objects.[49]

REFERENCES

Arystoteles, *Fizyka* [Physics]*,* Księga II [Book II], K. Leśniak (trans.), Warszawa 2010, pp. 87–88.

L. R. Baker, *On the Twofold Nature of Artefact*, Studies in History and Philosophy of Science, 37, 2006, pp. 132–136.

K. Brzeziński, J. Lubacz, *Skąd się biorą przedmioty wirtualne* [Virtual Objects and Where They Come From], in: Przedmioty wirtualne [Virtual Objects], P. Stacewicz, B. Skowron (eds.), Warsaw University of Technology Publishing House, Warsaw 2019, pp. 11–23.

D. Chalmers, *The Virtual and the Real*, Disputatio, 9 (46), 2017, pp. 309–352.

---

[47] A. Latawiec, *Rola symulacji w kreowaniu świata wirtualnego* [The Role of Simulation in Creating the Virtual World], op. cit., p. 52.

[48] A. Chmielecki, *Sposoby istnienia* [Modes of Existence], Filo–Sofija, 1 (2), 2002, pp. 7–21; W. Krajewski, *O podstawowym – i niepodstawowych sposobach istnienia* [On the Basic and Non-Basic Modes of Existence], Filozofia Nauki, 10 (1), 2002, pp. 67–82.

[49] The reductionist current dominates American philosophy of mind, which sets the tone for research on the problem of mind on a global scale. A similar trend can be observed in the philosophy of computing, in the research on the ontic status of virtual objects: they are either treated as (non-existent) fictions or attempted to be reduced to material objects—both these trends seem inappropriate.

A. Chmielecki, *Sposoby istnienia* [Modes of Existence], Filo–Sofija, 1 (2), 2002, pp. 7–21.

R. Crandall, M. Levich, *Virtual Reality, And All That*, in: R. Crandall, M Levich (eds.), A Network Orange. Logic and Responsibility in the Computer Age, Springer, New York, 1998, pp. 85–107.

J. Fink, Cyberseduction: Reality in the Age of Psychotechnology, Prometheus Books, New York 1999.

M. Heim, *The Metaphysics of Virtual Reality*, Oxford University Press, New York 1993.

____ , *Virtual Realism*, Oxford University Press, Oxford 2000.

W. Houkes, A. Meijers, *The Ontology of Artefacts: The Hard Problem*, Studies in History and Philosophy of Science, 37(1), 2006, pp. 118–131.

J. Gurczyński, *Czym jest wirtualność. Matrix jako model rzeczywistości wirtualnej* [What Is Virtuality. Matrix as a Model of Virtual Reality], Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2013.

W. Krajewski, *O podstawowym – i niepodstawowych sposobach istnienia* [On the Basic and Non-Basic Modes of Existence], Filozofia Nauki, 10 (1), 2002, pp. 67–82.

P. Kroes, A. Meijers, *The Dual Nature of Technical Artefacts*, Studies in History and Philosophy of Science, 37 (1), 2006, pp. 1–158.

P. Kroes, T*echnical Artefacts: Creations of Mind and Matter. A Philosophy of Engineering Design*, Springer, Dordrecht 2012.

M. Krueger, *Artificial Reality II*, Addison-Wesley Publishing Company, Massachusetts 1991.

A. Latawiec, *Rola symulacji w kreowaniu świata wirtualnego* [The Role of Simulation in Creating a Virtual World], in: A. Kiepas, M. Sułkowska, M. Wołek (eds.), Człowiek a światy wirtualne [The Human Being and Virtual Worlds], Wydawnictwo Uniwersytetu Śląskiego, Katowice 2009, pp. 50–58.

E. Margolis, S. Laurence, *Creations of the Mind. Theories of Artifacts and Their Representation*, Oxford University Press, Oxford–New York 2007.

T. Metzinger, *Why Is Virtual Reality Interesting for Philosophers?* Frontiers in Robotics and AI, 5, 2018, pp. 101–120.

T. Miczka, *Czysta iluzja i testowanie realności: dwie rzeczywistości wirtualne – dwa uczestnictwa* [Pure Illusion and Testing Reality: Two Virtual Realities—Two Participations], in: A. Kiepas, M. Sułkowska, M. Wołek (eds.), Człowiek a światy wirtualne [The Human Being and Virtual Worlds], Wydawnictwo Uniwersytetu Śląskiego, Katowice 2009, pp. 11–29.

A. Pawłowski, *Wirtualizacja – historia i próba rekonstrukcji pojęcia* [Virtualization—History and an Attempt to Reconstruct the Concept], in: L. W. Zacher (ed.), Wirtualizacja problemy, wyzwania, skutki [Virtualization Problems, Challenges, Implications], Poltext, Warszawa 2013.

Plotyn, *Enneady* [Enneads], vol. I–II, A. Krokiewicz (trans.), PWN, Warszawa 1959, pp. 204–269.

E. Reid, *Cultural Formations in Text—Based Virtual Realities*, PhD Thesis, University of Melbourne, Melbourne 1994.

Z. Rysiewicz, *Słownik wyrazów obcych* [Dictionary of Foreign Worlds], Warszawa 1955, column 694.

P. Sitarski, *Rozmowa z cyfrowym cieniem. Model komunikacyjny rzeczywistości wirtualnej* [Conversation with Digital Shadow. Communication Model of Virtual Reality], Rabid, Kraków 2002.

D. Stanovsky, *Virtual Reality*, in: L. Floridi (ed.), The Blackwell Guide to the Philosophy of Computing and Information, Black-well Publishing, Oxford–New York 2004, pp. 167–177.

A. Thomasson, *Artifacts and Human Concepts*, in: E. Margolis, S. Laurence (eds.), Creations of the Mind, Oxford 2007.

M. Trybulec, *W stronę epistemologii artefaktów poznawczych* [Towards the Epistemology of Cognitive Artifacts], Filozofia i Nauka. Studia filozoficzne i interdyscyplinarne, 9, 2021, pp. 195–223.

ABOUT THE AUTHOR — PhD, Institute of Philosophy and Sociology of the Polish Academy of Science, Nowy Świat Street 72, 00-330 Warsaw, Poland.

Email: mmazurek@ifispan.edu.pl