

Virtual reality and the problem of illusion

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The paper touches upon the problem of differentiating between virtual reality and original reality. The article makes a contribution to the modern ontology, as it discusses the problem of the status of virtual reality, which is formed by modern technical and mathematical means using cognitive technologies. The work is based on the concepts of E. Husserl and H. Putnam, as well as theories of psychophysiology and cognitive sciences. Arguments are provided for the following opposing statements: that it is possible to differentiate between them and that it is not. To specify the distinctive features of virtual reality, the latter is described as a system of perceived existing things and in comparison to other forms of such systems: subjective and objective, individual and social, natural and cultural, material and ideal, original and fictional, abstract and transcendental, evident and illusionary, true and false, erroneous and imitative, deceitful and mistaken, performative and simulating, conditional and unconditional ones. This part of the article qualifies virtual reality as illusion created via imitation. It is further revealed that the key distinctive feature of original reality, which is defined in the modern phenomenology as the maximal level of evidence, is applicable to virtual reality as well. The major argument in favor of the provable difference between virtual and original reality, which the contemporary analytic philosophy offers, can be confuted by means of a thought experiment based on the doubling of virtual reality. The final part of the article discusses psychological (experiment-based cognitive) arguments in favor of differentiating between virtual and original reality successfully: effect of presence and immersion. Both effects are typical of the reality types under comparison, as well as of experiencing these realities. The paper concludes that neither philosophy nor cognitive sciences can offer a compelling argument to differentiate between original reality and virtual reality.

Keywords: original reality, virtual reality, simulated reality, illusionary reality, problem of the Matrix, problem of evidence, effect of presence, immersion.

Introduction and goal formulation

Nowadays, virtual reality is one of the most important tools applied in all types of human activity. It is also a way of forming social, anthropic and cultural worlds, as well as of their functioning. It is applied in policy and economy, education sciences, and in the everyday life. Virtual reality has grown to be as significant as original reality. On one hand, the time an awake person spends surfing for information and communicating in social networks is comparable to the time spent without gadgets or the Internet. On the other hand, private life gets virtualized, personal activity results can be saved and stored in the

information environment without getting permission from any expert communities. This makes virtual reality an easily available world of “eternity”. One can gain social acceptance this way. Even more, this can make life full of meaning by bridging the gap between the finitude of physical existence and the infinite content of human mind stored in virtual reality. This fact makes virtual reality and virtualization of existence not a mere technological achievement aimed at solving certain problems, but an independent phenomenon, a form of culture genesis. Its importance has not been fully recognized yet, but it is possible to assume that the increasingly important phenomenon will form the basis for an emerging new era in history of culture, comparable, in terms of its significance for human existence, to such forms of culture genesis as tradition and creativity. While archaic culture was formed and driven forward by language, traditional culture — by writing, creative culture — by book printing, mass culture — by electronic mass media, virtual reality is a key tool of network culture.

In this cultural and historical context, scholarly interest to virtual reality is highly relevant. It covers a wide range of research programs, from purely applied developments in computer technologies, computer science, mathematical modeling, education sciences, and medicine to sophisticated theoretical approaches to psychology of perception, higher nervous activity studies, linguistics, cultural studies, and education sciences. A philosophical conceptualization of virtual reality (VR) is one of the major research tasks aimed at understanding its nature, because the idea of VR includes the concept of reality.

The paper analyses how virtual reality and original reality (OR) interact. Its aim is to investigate how close (or different) they are, based on philosophical arguments, or phenomenological reflection on the content and structure of the experience representing virtual and original reality. This comparison and the categorization of virtual reality as a specific reality subclass assume that VR is inferior to OR in some aspects. The concept of VR includes an element of illusion. VR is not real, OR is. Consequently, it is impossible to define typological characteristics of VR without understanding the role of illusion and fiction in the typology of realities. But the problem is much more complicated than that, because VR is not just delusion or imagination. It proves to be such an accurate imitation of OR that it is impossible to distinguish one from the other even using personal experience of test subjects involved in relevant experiments held to find out, by means of new technologies, how simulated environment affects human perception. In other words, a question should be raised whether virtual reality is an illusion compared to original reality, and whether this statement is well-grounded.

To answer this question, a number of problems should be solved. First, a working definition of reality should be given to develop a typology based on it. At least, it must be sufficient to differentiate between VR and OR. A working definition is required also for the concepts of illusion and fiction, which are close but not identical, in order to bring it into correlation with VR and OR. Furthermore, critique should be provided concerning the key arguments that help to differentiate between the real (original, evident) and the non-real (fictional, constructed). Our reasoning is based on discussing philosophical hypotheses which imply that original and illusionary realities can be differentiated. There are two arguments to support that. One is based on the limited totality of the real. The other is based on its specific evidence.

In other words, the first argument implies that original reality does not exist if the only existing reality is virtual; therefore, they must be differentiated. The other argument

implies that original reality has some distinctive features. The first argument was formulated in solving the so-called “problem of the Matrix” (see Hilary Putnam’s “brain-in-a-vat” thought experiment). The conclusion was optimistic: “The Matrix never has you”. The Matrix (VR) will never control our minds. But the underlying idea is that VR and OR can be differentiated. And this point is disputable. An in-depth look at Putnam’s reasoning is required, taking into account the above-mentioned research goal of the paper. This is its second goal. The third one is solving yet another problem related to the concept of evidence presented by Edmund Husserl in the *Logical Investigations*. According to Husserl, evidence is a kind of original reality experience, related, on one hand, to anticipation of a certain meaning due to human mind’s pre-existing patterns of perception, and, on the other hand, to the maximal fullness and unpredictability of the content of the impression received, the realization of the pattern (transition of protention into intention). The concept of evidence, which is one of the strongest arguments to support the divergence of evidence and construct, can be applied to VR just as it is applicable to OR. Despite the author’s idea, this concept does not enable defining the specific essence of OR and, consequently, equates VR with OR. This is the same problem as that one resulting from Putnam’s argument interpretation. It is necessary either to accept these arguments or to offer a new one (ones) claiming to be a criterion to differentiate between virtual and original reality. Also, the new argument should specify how fiction and illusion are correlated to the essence of virtual reality. The last goal of the paper is to put forward such an argument as the ultimate answer to the key question.

Consciousness and types of reality

The concept of reality indicates the specific — substantial — nature of being and existence. But we call “real” not only objective, but also subjective existence and all its manifestations. Moreover, a project, fiction or illusion can be quite real, too. Ideas, memories and imagination are real. A project is a possibility or necessity of existence. In this sense of the word, a project can be quite real, for example, in the future. Fiction is a suggestion concerning some existence which *does* exist now, but cannot be defined as known or real (evident). Illusion is a kind of existence that pretends to be something else, but remains real in disguise. In this sense, reality is more than facts of life. There are many types of reality. Reality is a whole of consciousness experiences aimed both at the data of consciousness and its own content. The data of consciousness are sensations, fantasies, memories, projects, fiction and illusions. Even the implication that consciousness is not reality as a whole, and there is some other existence beyond, — even this is data of consciousness. Nothing is opposed to reality; nothing is a part of reality, because it can be experienced somehow, for example, as a concept, idea or loss of existence [1].

The structure of consciousness is usually represented by three components: Self, experience and object. Object is the most substantial part of this structure, because it comprises the whole entity of meanings reality consist of, including sensually perceived things, ideas, memories and fantasies. Experiences, or ways of givenness of objects, are transparent to them and can only be defined as a kind of object qualities. Thus, an object seen is not the same as an object heard or felt. An idea conceived is not the same as a thing seen. Fiction conceived is not the same as a project conceived. The same is true for Self. Self is neither an object nor experience of an object. Self is yet another group of objects’ qualities.

However, Self, just like experience, can become an object of consciousness, if these qualities are abstracted from the original objective reality. First of all, Self qualities are structure of consciousness, its meaningful and temporal entity which enables seeing the whole of data and position them in time and space in accordance with their qualities. Besides, Self is instance of will to actualize experiences varying from passive data recording to active data acquisition and transformation.

Therefore, the structure of reality enables differentiating between its subjective and objective forms. The subjective form comprises all qualities of Self and experiences (the subjective reality can also be referred to as transcendental, using Kant's terminology). The objective reality comprises all other qualities of data. However, if Self and its experiences are experienced in the process of reflection, they do not become objective reality, though they get objectified. Another way of distinguishing one reality from another is differentiating between the natural (given) and the artificial (constructed). This dichotomy is characteristic of subjective reality because it makes a difference between qualities recorded passively and qualities obtained by some effort made independently or by some community surrounding Self. The passive aspect of subjective reality can be defined as anthropic reality which comprises everything related to human psyche, including the mental (emotions, will, desires, feelings, thoughts, and ideas) and the corporal, its physiological cognitive characteristics that affect consciousness (sense of movement, pain, pleasure). The active aspect of subjective reality can be defined as social reality representing a modification of anthropic reality. Nevertheless, the process involves not only society, but also an individual. A combination of inclinations (anthropic reality) and education (social reality) makes up subjective reality. It forms a unique individuality and socially important human personality. Any anthropic reality has a social modification which is difficult to tell from the original state. The same is true for social reality which contains original states related to anthropic reality.

Dichotomy of the given and the constructed is typical of objective reality, too [2]. And it also is related to differentiating between passively recorded givenness and actively generated construction. The given objective reality is natural; the constructed objective reality is cultural. At the same time, it is obvious that any type of nature is conceptualized, which means partially constructed, and has some element of evidence related to original data that provided material for cultural construction. Thus, the concept of reality is divided into four types: subjective anthropic reality, subjective social reality, objective natural reality, objective cultural reality. The question is what position original reality and virtual reality have in the row of reality types. To answer it, some clarifications should be made.

The first one is related to differentiating between material and ideal reality within the structure of cultural, anthropic, social, and natural realities. Each of them has some sensually perceived factuality and ideal concepts abstracted from it. Nature is a set of certain phenomena and their formal essence. Society is a set of certain norms and social structures, as well as real social practices and human interactions. Culture is a set of certain artifacts and meaning of their production and consumption. A human being is a set of psycho-physical experiences and its ideal models. The ideal aspect is highly important to some types of reality. Some others are much more dependent on material aspect. Thus, the latter does not really matter in social reality. For cultural reality, the material aspect is important sometimes, but not always. For example, values are absolutely immaterial. The material is insignificant in the science field. But it is vitally important in arts. Material

aspect is crucial in the world of natural and anthropic reality: the process of experiencing givenness underlies both. But ideal aspect is vitally important for natural reality, it is so important that some scholars even include it with a world of mathematical objects. For instance, Karl Popper postulated existence of objective, subjective and ideal worlds. This is to be clarified.

Any material reality can be original or fictional. In anthropic world, fiction is a memory of various mental and corporal emotions and volition, imagining them. Original reality consists of factual emotion experience and volition actualization. In the cultural world, fiction is a memory of artifacts perceived and their imaginary phantoms, while original reality is factuality of experiencing artifacts (under artifacts art is meant, models of human personality and body). In the natural world, fiction is a memory of natural phenomena and their anticipated images, while original reality is factuality of nature experiencing. In social world, memories and projects of human practices and communication are fiction in relation to original experiences of social interaction. As for ideal reality, it is impossible to apply concepts of fiction and originality to it. Ideal reality can be abstract and transcendental. In the anthropic world, reality consists of ideas of the essence of consciousness, while transcendental reality contains ideas of human soul. In the social world, abstract reality consists of various ideal types of society and models (norms) that generate human communication, while transcendental reality is made up of various ideal utopias. In the cultural world, abstract reality contains concepts of the essence of culture and various models (values) that generate it, while transcendental reality consists of utopian concepts, too. In the natural world, abstract reality are laws of nature, including mathematical objects, while transcendental reality contains cosmogonic, futurological, theological concepts, including the concept of nothing.

Original reality is a reality of recorded factuality, perceived as passive givenness, imposed onto consciousness with all possible evidence, in other words, unpredictability and fullness of content experienced. Original reality is a world of objects perceived by senses, a world that depends on their qualities to a great extent. Fictional reality is a reality of memories and imagination. Fictional reality is always derivative from original reality. It is original reality that is remembered and it is original reality that imaginary reality simulates (or opposes). Abstract reality is also related to original reality. Qualities of the latter one make basis for abstracting. However, idealization can claim to be separated from any original reality. In this case, a world of the transcendent emerges. But it cannot completely break up with the world of the original. It remains related to it in various ways. Can virtual reality be fiction? No, it cannot. The point is that fiction does not claim to be original reality. It is perceived as a fictional form of reality. A memory cannot be mistaken for reality, though a dream can — until awakening. But virtual reality is difficult to tell from the original one.

Evidence and illusion

We have advanced in our search for the core of virtual reality — significantly, but insufficiently. Now, it is time to specify the role of illusion in the system of reality. The point is that original reality can be evident or illusionary — be what it claims to be or pretend to be something else, imitating the original. In the first case, material incentives form an idea in perception that correlates to their essence. In the other case, they help form an idea that is the essence of some other things. Abstract reality, in its turn, can be true or false, which

means that it can be related to material reality as an abstraction from its essence, or not. In a wider context, it can be described in terms of adequacy or inadequacy of a judgment that represents an abstract ideal pattern of relationship between things, a certain position or interconnection of material things perceived by senses. Fictional and transcendental reality cannot be described so easily. In some cases, it is possible to reveal the connection between fictional and original realities. Thus, memories of some event can be doubted based on contradictory evidence; a memory can be repeatedly conceptualized in different ways. The case of transcendent reality is even more complicated. The idea of it does not have any relation to facts. They are defined by means of antinomical statements. Each of them can be equally true or false. For example, the statement “Everything is predestined” forms an antinomy with “Everything is accidental”.

We are very close to the concept of virtual reality now. Virtual reality is, or seems to be at first sight, a mere illusion. But there are different types of illusion, namely, mistakes or results of deliberate imitation (just like false abstractions can be delusion or deliberate deception). Errors are of individual and anthropic origin. Imitation is of social and cultural origin. If one mistakes a shadow for a real person, or thinks that a stick is wavy because its reflection in water is wavy, that is an error. If there are fruits on the table, made of terracotta and brightly painted, such a realistic copy that one wants to eat them, that is an imitation. Imitation underlies an illusionist's trick: he deliberately deceives me by showing a bird born from an egg under his hat, and I cannot guess how he does it. But it is not original reality that is imitated here. The trick simulates a magical chance to hack reality by negating all habitual patterns of experiencing things and processes they are involved in. Virtual reality imitates original reality. However, not all types of reality are easy to imitate. For instance, it is difficult to imitate anthropic reality because it momentarily turns into a social game intended for others. One cannot play with oneself, unless split personality is the case. But it is imaginable that subjective sensations could be imitated by affecting human mind and body somehow. Art is commonly known as a kind of social and cultural reality imitation, but it is perceived as an imitation, so its claims to be illusionary are limited. But virtual reality imitates natural reality first of all. Though cultural reality and, partially, social reality can be simulated within VR, too (at present, it is too difficult, but principally possible to simulate social reality within virtual one).

But that is not all. Imitations can be different, too [3]. They can be divided into two categories: emulations and performances. Emulations generate copies of reality, performances modify original reality. Theater is an image of original reality, a parallel simulated world that is similar to the original one not only by its essence but also by its factuality. Performance is not a parallel world, it is a modification of the real world, an invasion into its factuality and modification of its core. Flashmob is a kind of human communication that imitates reality not by copying original communication, but by modifying it. Anthropic reality is rarely imitated, especially by emulation. At least, examples are difficult to find. As for performances, examples are theoretically possible. Cultural and natural realities are imitated mostly by emulation, but such performances are hardly imaginable. Imitations of social reality are represented both by performances and emulation.

In conclusion, both performances and emulations can be conditional and unconditional. Conditional ones are not initially perceived as original reality. Unconditional ones are perceived as original and evident reality through some special experience. Or even something more than original. Thus, all art images and various social performances are experi-

enced as a kind of conditional emulation or reality modification, which means, a kind of reality deprived of evidence. On the other hand, an icon (a religious image) is experienced as a special way of accessing original reality and even more than that: the highest level of original reality, a sacred reality opposed to the low-level secular reality. A ritual can be a copy of original reality or its performance. Anyway, it is unconditional imitation of reality experienced as belief in the possibility of getting access to the sacred sphere of original reality.

Now it is possible to define the status of virtual reality in the general system of reality. VR is a kind of illusion created by imitation, which is both emulation and performance [4]. To experience virtual reality means to perceive copies of original reality while taking actions. This means to participate in this imitation and, consequently, modification of original reality. Unlike rituals, VR is a conditional reality. But the tendency is that its development could eventually replace conditionality with unconditionality. It is not needed to believe in VR to make it unconditional. The point is that, thank to new technologies, the up-to-date systems of virtual reality modelling generate such a perfect imitation of reality that it is no more possible to tell virtual reality from the original one [5]. The question arises whether it is possible at all. One of the most important answers to this question was given by Hilary Putnam and Edmund Husserl.

The Matrix problem and the concept of evidence

Hilary Putnam, an American philosopher, analyzed how virtual reality and original reality correlate using the following thought experiment: “we could imagine that all human beings (perhaps all sentient beings) are brains in a vat (or nervous systems in a vat in case some beings with just a minimal nervous system already count as ‘sentient’)” [6, p. 20]; and further: “let us suppose that the automatic machinery is programmed to give us all a collective hallucination, rather than a number of separate unrelated hallucinations. Thus, when I seem to myself to be talking to you, you seem to yourself to be hearing my words” [6, p. 20]. Hilary Putnam’s main conclusion rules out the possibility of the human-kind as a community of “brains in a vat”: “although the people in that possible world can think and ‘say’ any words we can think and say, they cannot (I claim) refer to what we can refer to. In particular, they cannot think or say that they are brains in a vat (even by thinking ‘we are brains in a vat’)” [6, p. 22].

A community of “brains in a vat” is a community of people who know nothing but virtual reality. They do not know the difference between virtual and original reality. This means that, if a brain in a vat says “I am a brain in a vat”, it lies, because it knows no original reality where original brains and vats exist. It also means that people who can tell the difference between virtual reality and original reality are not brains in a vat, either. Otherwise, they would not know this difference. The conclusion is optimistic, because it means that virtual reality is not our only reality since we can tell the difference between it and original reality.

But the situation is much more complicated when it comes to the correlation between virtual and original reality. First, physical reality does not rule out the possibility of brains in a vat that think they are real people. Putnam admitted that, too. His argument proves that, even if we are just brains in a vat, we’ll never find this out. Unless someone from the outside equips the brains with eyes to see how different the real world is. This is exactly what happens in the “Matrix”, though in its universe vats contain not brains but humans

who, their eyes closed, perceive virtual reality instead of the original one. Later, saviours come who switch their minds from VR to OR. Second, the statement “we are brains in a vat” is still logically possible, if the thought experiment is a bit more complicated. What if we really are brains in a vat and, as such, live in the virtual reality generated by some people and generate our own virtual reality within? Then there are two virtual realities (VR1 and VR2). VR1 is analogous to the people’s original reality, while VR2 — to the people’s virtual one. In VR1, there are people, brains and vats that are perceived not as virtual images, but as originals. In VR2, there are their virtual copies.

Putnam’s first thought experiment that refutes the statement “we are brains in a vat” is true for inhabitants of a total two-dimensional virtual reality. But the problem is that the difference between virtual reality and original reality is substituted for the difference between two forms of virtual reality. Thus, the difference and reference between these two realities remain intact, but, since these two realities are nothing but two forms of the same virtual reality, virtual brains in a vat can deny their virtuality, believe they are real people and still be virtual and even allow for the possibility of it.

The Matrix problem and Putnam’s argument do not enable differentiating between VR and OR, despite the fact they were supposed to lead to the conclusion that reality’s totality is contradictory and, consequently, is refuted by this very difference, which, in its turn, was supposed to be justified. The attempt to prove the difference between virtual and original reality by refuting the total reality assumption is disputable. Therefore, the difference should be proved in another way, not negatively but positively, by demonstrating the qualities of PR and VR that clearly enable classifying one reality as original and the other — as virtual.

The most important concept that implied established criteria of differentiating between evident reality and illusion was that of phenomenological reduction by Edmund Husserl. Husserl writes: “as for knowledge in the strictest and the most narrow sense, it requires evidence, clear conviction that what we recognized really exists and what we rejected does not” [7, S. 28]. What do we need to admit that something really exist? Husserl describes a specific act or event that enables admitting evidence of something: “we set the filling meaning (or the meaning that fills the intended significance) as an antithesis to significance, by indicating that, via filling, the object is intuitively ‘given’ in the same way that clear significance implies” [7, S. 625]. In other words, any experience of evidence becomes possible if a phenomenon is anticipated in the form of ideal image and this image and idea are filled with diverse, expressive and unpredictable meanings and data perceived by senses. Experience of evident reality is just a certain moment of perception saturated with data that validate the expectations of knowledge. It results from reduction (excluding from evident reality) of other additional meanings connected to memories, imagination, ideal concepts. Unlike evident meanings, additional ones are schematic constructs.

The concept of evidence became central in Husserl’s phenomenology as early as at the descriptive stage of its development. However, later he extended his concept with a number of aspects related to revealing the role of Self in the contents of experience. This period in the history of phenomenology is traditionally referred to as transcendental, because reduction of material or insignificant (in terms of content of experiences) meanings was completed only after Self was revealed as a meaning that cannot be reduced. Unlike evidence of given objects, Self is revealed via some logical procedure, namely, the radical doubt in existence of anything, which René Descartes initiated. It is impossible to doubt the existence of Self, because doubt is a form of existence. If Self has doubts, Self exists. But

the original existence of Self and doubt are two different actions and they do not take place simultaneously. Therefore, it is obviously impossible to establish their equality. It can only be done fictitiously, as equality of memories of original existence and doubt. Searching for evidence that cannot be reduced (that exists always, within any experience and cannot be emptied), Husserl came to a conclusion that such evidence is impossible to find. The only thing left was to build a theory of evidence that is rather close to the ideal but does not enable discovering it in the form it is supposed to have, as the concept suggests. On this scale, the essence of experience of evidence, most adequate to its ideal, is discovery of Self as “living present”, a present that never becomes past or becomes something that has just existed, in a combination with a full intention of the given thing.

Can the concept of evidence coined by Husserl help to reveal the difference between original and virtual reality? Transcendental interpretation of evidence is of little use because illusions in the Self sphere cannot be imitated yet. Only errors are possible here, like phantom pain. What is left is the concept of evidence of the given. A look at how virtual reality is experienced demonstrates that it has all characteristics of evidence Husserl specified for original reality: perception of virtual reality objects and the subject's actions within VR time and space comply with the transition of protention (anticipation) into intention (sense of the real), so that intention is filled with content. Ideal meaning and material object coincide. This fullness is distinguished by brightness, infinity, unpredictability, just like the fullness of original reality experience is. At early stages of OR imitations genesis by means of virtual reality technologies and corresponding stimulation of organ of senses, this fullness was inferior to original reality by the richness of OR content. It was dull, schematic, a poor version of analogous forms of original reality (today, it can easily be traced by social reality imitations: any communication with AI, like search engines chat bots, leaves the impression of an illusionary and schematic dialogue partner. However, the further technologies are developed, the more realistic virtual reality grows. Its imitations are increasingly difficult to unmask. No conditions, no belief is required to make a person believe in unconditionality of VR performances and simulations. No dream, no intoxication, no forms of altered state of consciousness can be equaled to VR imitations of real objects by their realism. Therefore, a conclusion can be made that qualities of original reality, which Edmund Husserl established as its unique, substantial distinctive features, proved to be qualities of virtual reality as well. However, the great founder of phenomenology knew that he failed to find a way of revealing evidence that cannot be disputed. So he admitted that any evidence could turn into illusion. Even the evidence of Self allows for transcendental illusion. Evidence of the given is not guaranteed by the fullness of experience that was labeled as a criterion of its qualification as evident reality. Content of evidence always could stop being what it claims to be. This circumstance is the crucial feature of both original and virtual reality.

Therefore, a conclusion can be made that there is no way to differentiate between virtual and original reality phenomenologically and logically. The difference cannot be proved neither by a thought experiment, nor by a phenomenologically organized experience. No contradiction or argument can serve as a proof. To differentiate between them, an experimental method is required: knowledge obtained not via experience or deduction, but in the form of research model that combines all features of technologies of virtual reality production and behavioral, cognitive, physiological properties of a human who experiences this virtual reality. The reality of culture, ideal and abstract, is meant here. But this method is also a method of generating ever more perfect imitations than can be

used to ultimately replace evident reality with virtual reality. No matter what the goal is, it is highly dangerous to our species and to humans as unique, free, creative personalities. At present, it is vitally important to research virtual reality from this perspective and find ways to prevent the scenario from coming true.

Psycho-physiological proof that reality is virtual

The term “virtual reality” (VR) usually denotes an artificial world generated by means of technologies and existing in digital form only. This objectively non-existing world can be a copy of the existing world or be absolutely fantasy-like. It is transmitted to a human through the five senses: vision, hearing, tactility, proprioception, etc. Virtual worlds are diverse and can be simulated copies of real places, as well as fully imaginary, unrealistic versions.

VR operator can manipulate virtual objects and interact with them, move within virtual space, verbally and non-verbally interact with other people, create and play. In such environments, operators have high-level subjectivity and autonomy. The operator’s reaction to various virtual environments and interaction with them depends on a number of technological features of the environment and psychological qualities of the individual. Immersion and sense of presence are crucial. Immersion is the ability of virtual reality to replace or extend human perception. Depth of immersion is defined by technical characteristics of VR environment such as display resolution, frame frequency, field-of-view angle, stereoscopy, stereo sound, accuracy and speed of tracing, etc. For example, highly photorealistic graphics in VR environment contributes to deep immersion. Sensory stimulation is also important: immersion effect is greater in case of simultaneous stimulation of a huge number of sensory systems.

Sense of presence is defined as subjective experience of being in a certain place even if physically the subject is somewhere else. There is a correlation between immersion and sense of presence. Thus, it is noted [8] that immersion moderately affects sense of presence. In addition, the scholars demonstrated that a more accurate and speedy tracing of a user’s movements, application of stereoscopic visual effects and a wider field-of-vision of displays are much more efficient than enhancement of the majority of other characteristics of immersion system, including the quality of visual and audio content.

The ability to move freely around virtual environment and interact with virtual objects, if their physical characteristic are modeled realistically, dramatically increases sense of presence. A deeper sense of presence is provided if a user applies a virtual avatar that realistically mimics the user’s movement with the help of movement capture technology. Individual properties, such as ability to get immersed into various contexts, ignore distractions, sense of “being captivated”, intensity of content-provoked emotions and frequency of immersions increase sense of presence, too.

Interactivity is an important aspect of VR because it greatly affects sense of presence. Various sources offer a number of definitions of interactivity, but in the context of multimedia influence interactivity is usually defined as bilateral activity of a recipient and a multimedia system in which the recipient’s actions depend of those of the system and vice versa.

How does brain tell virtual reality from original reality?

It seems that it does not. In particular, a number of scholars state that objective research methods do not enable revealing the difference of sensory system’s reaction to a “replaced reality”.

For instance, people who suffer from acrophobia experience it in VR as intensely as in OR, which was proved with EEF results. Phobias were as intensive in VR as in OR, or even superseded the normal reaction to triggers in the “reality”, which can sometimes be used for psychopathy treatment, including post-traumatic ones. One must agree with the opinion of some researchers that there can be individual reactions to “this” or “that” reality.

Conclusions

The main answer to the question posed at the beginning of the paper can be obtained by reasoning, and it is as follows: virtual reality is a kind of material original reality. It is not fiction. Virtual reality imitates all kinds of physical reality, both subjective and objective. At the same time, virtual reality is not evident and represents a kind of illusion, namely, imitation of evident reality. Imitation is actualized by copying evident reality or modifying it. Importantly, these copies and modifications (performances) become unconditional reality thank to high-level imitation. As the technology of stimulating experiences via VR gets more and more elaborate, it grows more and more difficult to differ VR from evident reality. All the attempts to justify the fundamental difference between virtual and evident realities by means of logical and phenomenological arguments failed. All the arguments claiming to prove the statement that virtual and evident reality cannot be identical do not seem to be working or convincing. Neither do the substantial criteria of their differentiating. The only method to establish the difference is provided by scientific knowledge of ways of producing virtual reality and experiencing evident reality. This circumstance poses a threat of replacing evident reality with the virtual one, which can be taken advantage of and used to reach goals potentially endangering the human race as a whole and the free and unique human personality in particular.

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Виртуальная реальность и проблема иллюзии

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В статье рассматривается проблема дивергенции виртуальной реальности и подлинной, приводятся аргументы в пользу их различия и в пользу невозможности их различить. Для того чтобы определить специфику виртуальной реальности, она была охарактеризована как система сознаваемых сущих и сопоставлена с другими формами таких систем: субъективной и объективной, индивидуальной и социальной, природной и культурной, материальной и идеальной, подлинной и фиктивной, абстрактной и трансцендентальной, очевидной и иллюзорной, ложной и истинной, ошибочной и имитативной, обманом и заблуждением, перформативной и подражательной, условной и безусловной. Основным вывод данного раздела статьи заключается в квалификации виртуальной реальности как иллюзии, созданной посредством имитации. Далее было показано, что основным признаком подлинной реальности, определенный в современной феноменологии как максимум ее очевидности, вполне может быть характеристикой виртуальной реальности. Основной же аргумент, направленный против смешения виртуальной и подлинной реальности, сформулированный в современной аналитической философии, можно опровергнуть посредством мысленного эксперимента, связанного с удвоением виртуальной реальности. В заключительном разделе статьи обсуждаются психологические и биологические (экспериментально-когнитивные) аргументы в пользу различия виртуальной и подлинной реальности: эффект присутствия и погружение. Оба эти эффекта характерны для сравниваемых типов реальности и их переживания — для подлинной и реальной в равной мере. В итоге статьи сделан вывод, что сегодня убедительных аргументов для различия подлинной и виртуальной реальности нет ни в философии, ни в когнитивных науках.

Ключевые слова: подлинная реальность, виртуальная реальность, имитативная реальность, иллюзорная реальность, проблема матрицы, проблема очевидности, эффект присутствия, погружение.

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