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**The Telematic Art: from the Image of *Water lilies*  
to Dipping the Hand into the Electronic Pond' *Realis***

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**Abstract:**

My task is to describe the phenomenon of telematic art, i.e. sensory perception, meaning mainly the touch - the experience made thanks to the influence of non-physical stimuli, as it is sometimes in the interactive electronic environment.



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including electronic art.

## 1. The association and telematic art

The telematic art appeared in the early 70s. The example is the situation described by M. Krueger, when through the technology combining the image flowing from two different places in the physical space, the telematic contact between two people took place. This was based on the experience of mutual feeling of palms touch, without physical contact – the touch took place in the joint for two persons image, flowing from two cameras. When at some moment two persons' palms overlapped with each other, a feeling of physical contact aroused; as a result, one person withdrew the hand - mind reacted as in the case of a situation in the physical world, only that here it was the immaterial environment without physical medium.<sup>1</sup>

A similar phenomenon can be found in the aesthetic experience, on the basis of the association of feelings, which are developed by the earlier experience. They may involve, for example, the sensation of taste, cold or heat, as well as the smells and moods. The phenomenon of synesthesia is specific, although different from the association,<sup>2</sup> which is a

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<sup>1</sup> M. Krueger, *Artificial Reality II*, Addison-Wesley Publishing Company Inc., 1991, p. 34.

<sup>2</sup> Synesthesia is described as a rather rare phenomenon, resulting from the construction of the brain (F. Biocca, J. Kim, Z. Choi, *Visual Touch In Virtual Environments: An Exploratory Study of Presence, Multimodal Interfaces, and Cross-Modal Sensory Illusions*, "Presence" MIT, vol. 10, No. 3, June 2001, p. 247-265). According to R.E. Cytowic, synesthesia appears in 1 case out of 25 thousand of people; it is the homogeneous process, occurring unconditionally and continuously, connecting, for example, taste to the shape, words or sounds to the colors or temperature: "Synesthesia (from the Greek *syn* - together, *aisthesis* - sensation, feeling) is the involuntary physical experience of the cross modal associations.

This means that the stimulation of one sensory modality is a viable reason for one or different senses. Its phenomenology clearly distinguishes [synesthesia] from literary metaphor, symbolism, sounds, and intended artistic treatments, which sometimes involve the concept of 'synesthesia' to describe their multisensory connectivity." (R.E. Cytowic, *Synesthesia: Phenomenology And Neuropsychology A Review of Current Knowledge* "Psyche", 2(10), July 1995, 1.2. Also, A. Lone, Ch. Tyler, *Neurohistory and Arts. Was Kandinsky and Synesthete?*, in the "Journal of the History of the

separate issue related to the construction of the brain; it is the individualized internal process and it does not have the characteristics of experiences common to all people; it is not intersubjective. Unlike synaesthesia, the association and telematic art do not arise from the individualized structure of the brain; they are quite common and may be developed.

## **2. The experience of pro-stage and interactive art**

In the history of art, the phenomenon of association is described as a multisensory experience. The example could be the paintings - eg. panorama by Anton von Werners, described by Oliver Grau<sup>3</sup>, entitled *The Battle of Sedan*, 1883. This panorama created the effect, which resulted in auditory and olfactory sensations associated with the painterly representation of the battle. The effect resulted from the omnidirectional perspective that created the kind of surrounding recipient space and feeling of presence in the midst of the battle.

The historical art, at least in its parts, for eg. nature morte, landscapes or corporeality, had the capacity to stimulate the human senses by the way of association. Painting used the image and space in the possible for their time manner. When the technical image appeared, such way of art impact has gained in importance. However, how has it changed in relation to the association known as the pro-stage art?

When we are dealing with interactivity, both referring to art, as well as, more broadly, the electronic environment - the recipient establishes common

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Neurosciences", 2003, Vol. 12, No. 2, p. 223. There is a view that the phenomenon of synesthesia could get a separate exemplification in the electronic environment; that it could change its meaning when considering the type of existing there multisensory interaction (F. Biocca, J.Kim, Z. Choi, *Visual Touch In Virtual Environments: An Exploratory Study of Presence, Multimodal Interfaces, and Cross-Modal Sensory Illusions*, "Presence", MIT, vol. 10, No. 3, June 2001, p. 247-252).

<sup>3</sup> O. Grau, *Virtual Art. Illusion From This Immersion*, Massachusetts Institute of Technology, Cambridge, London, 2003, p. 91-98

with other user or *device* contact, involving cross-determining of the process content, which causes the resulting situation can be described as extending beyond association, as it is tied with mutual participation involving complementing. This may manifest in inspiring subsequent events, volatility of which, together with engagement of the recipient makes that the viewer can feel real emotions.

You can raise the question whether, in fact, the phenomena appearing during the interactive process have inside any benchmarks that do not belong to the pro-stage experience, making the interactive experience could be described in a manner other than an association? Let's look at some examples of installations that from the beginning arose as the works of telematic art, which suggests that interactivity creates not only the association, but something more, that is the telematic experience. I would add that despite the assumed telematic art in these works, however, the doubts arise whether this is not merely an association. I express such a doubt in relation to a number of works of art, as described below, to present later two more examples of works, where telematic art is contained in a way not arousing major doubts, i.e. that the source of the sensory experience, for example, a touch is the electronic environment (technology), and not the physical world.

The classic examples of works of art, which include the ability to cause the telematic experience are, for example, the works of Paul Sermon, including among others: *Table Turned* (1997) or *Telematic Dreaming* (1992). Similarly, the installation of Monica Fleischmann and Wolfgang Strauss - *Liquid Views* (1992-2009). The Sermon Installations create the situations, in which the recipients - being located in the distant areas of the physical space - co-participate in the jointly created events, on the basis of telematic contact, for example, giving a hand, or as seen in one of the records, performing a kiss. Linking the image flowing from two different places in physical space creates a situation that is current and stimulating the real feelings in the people's relationship, for example, in the touch, felt in such a way.

In the case of *Liquid Views* a recipient has to do with experience of water, occurring in electronic form. One cannot experience it in a physical sense, but one can experience the

water surface, listen to the murmur, dip the hand in it – in a sense of the telematic experience. This is done by touching the display, set against the recipient, which displays the image of the surface of water with a naturalistic rocky bottom of the river or lake, combined with the image of the face of the recipient. The standing next screen displays the same image. Touching the display causes the formation of circular waves, such as those, formed when touching the physical water. The radiating over the bottom waves flows over the face of recipient, slightly distorting it, that causes the impression of the immersive face in the mirror of water. The installation evokes the sentiment – the feeling familiar with the experience of water in the physical world, symbolizes the need and return to the nature, feeling it in a natural way, although it happens because of the telematic experience.

Regardless of the examples cited above, the question arises whether, however, we are not still dealing only with the association, and the concept of telematic art is solely the use of a new concept in relation to the former phenomenon of association. In my believe, there are elements of experience resulting from the interactivity with the electronic media, that allow the use of the concept of telematic art as experience different from the association, but I realize that so far presented examples of telematic art, as new features of art or electronic environment, need not be convincing.

The first example of the work that rejects these doubts is the work of Hideyuki Ando - *Touch the small world* (2009). The work consists of an interface in the form of glass surface from which the images of the different textures are displayed, for example, the rough. Touching the surface, the recipient feels the changing texture under the fingers, but he touches still the same glass surface. Comparing these works of Sermon or Fleischmann and Strauss with “*Touch the small word*”, we have to deal with the difference consisting in the fact that the works of Sermon or Fleischmann and Strauss are closer to association, while Ando creates a literal sense, such as in the physical world, but with the help of electronics – he treats the properties of the physical experiencing as ones possible to produce electronically. Ando is literal in the discourse for sensual, underphysical experience, while Krueger, Sermon, as well as Fleischmann and Strauss make Prolegomena that it is possible. It

is a difference between imagining the taste, smell or weight of, for example, Cezane' Apples and the experience of, for example, roughness.

Let's look at another work, which develops the idea of telematic art in a similar way as work of Hideyuki Ando. It's about physicalization of electronic environment, ie. creation of the feeling of gravity. An example is the *Gravity Grabber* (2008), by Kouta Minamizawa, Souichiro Fukamachi Sho Kamuro, Naoki Kawakami and Susumu Tachi<sup>4</sup>. The work allows feeling the gravity or mass, regardless of the physical world. Feeling of the weight is provided electronically, becoming a source of sensory experience. The recipient has available touch-screen interface that allows experiencing the weight – in this case, of the sweeping ball. Technology means that even though the recipient does not have to deal with the physical balls, and only holds in his hands empty plastic container, seeing on the display that there are balls in a container, he feels their weight and movement - it happens thanks to interface in his hand. It is a sensual experience, created with the help of technology, and not coming from the physical world. It is not imaginary, but real. telematic art

In this situation, I try to talk about the experience of telematic art in the literal meaning. The creation of physical properties, as it happened in *Gravity Grabber* or *Touch the small Word*, is the creation of the human environment, where the issue of the sensory experience is independent of the physical world, being provided with the use of the electronic medium.

The examples presented above show that the phenomenon of telematic art can be expressed in at least two ways. Despite the fact that it is literally traced in the *Gravity Grabber* or in *Touch the small word*, this phenomenon has its meaning in a weaker form, which occurs in the case of mediation, referring only to the ordinary computer display. Variability of, for example, perspective, movement and space, emerging in this way, are constructed on the display in the electronic space, although this issue is still unclear, to what extent we are dealing with something more than the association. *There is a difference*

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<sup>4</sup> <http://www.youtube.com/watch?v=FtZ-h0WR6bU>  
[http://www.youtube.com/watch?v=ALjnIN\\_vosY&NR=1](http://www.youtube.com/watch?v=ALjnIN_vosY&NR=1)

*between looking at the painted or filmed garden, and walking and feeling the environment through the created electronically 3D garden. The first is the association; the second is the telematic experience.*

### **3. The telematic experience in the electronic environment; *realis* and the experience of the physical world.**

The telematic art issue gain the importance in a broader perspective of the cyber culture. This perspective takes into account mainly the kind of telematic art, which, as noted above, is the weaker form, ie. when it relates to the recipient before the computer display. Dissimilarity of the sensory experience in the physical and electronic world appears due to the ontological difference of these two realities. When it comes to perception, they may be similar - in both experiences, we have to deal with the real feelings, they differ in the source of creation.

The distinction between the physical and telematic experience can be described by indicating a medium, which is the substrate for these experiments, their source, value and quality.

**1. Medium.** By the medium I understand the base of the human experience, having mainly on account the physical world, art and electronic environment of *realis*:

a. The experience of the physical world is a natural experience of each human, it is colloquial and, in this sense, obvious. This experience remains the everyday human experience; we can say that it is cognitive experience, generally speaking, the attitude of human to the world.

b. The experience of the pro-stage art, where art can be seen as the medium for the multi-sensory experience, mainly as association. This experience does not have to be universal; it is associated with the ability to recognize the artistic and aesthetic values – concerns the aesthetic experience relating to the traditional arts. The art could be defined as the first medium for a sensory experience that does not arise



from the physicality. Perhaps, here is an issue of the historical development of the experience – the search of medium for experiences outside the reality of the physical world.

c. The experience of the interactive art containing the telematic art and experience of the reality of electronic *realis*. The telematic experience, both in the electronic interactive art, as well as the environment of electronic *realis*, is associated with the development of technology and, as a result, the more and more significant and intense medium of human activity. The feelings are real, and in some cases, they may sometimes be more intense for someone than those known from physical world, or be the only ones, which a human experiences.

**2. Source.** The source for the telematic experience is a human brain. The experience of the physicality determines the biological extension of the mind, i.e. the nerve endings are responsible for the human access to the physical environment. This observation leads to a transfer of the attention to the brain, as the one producing experience. The experience is made by converting the brain impulse. In this case, it is not about the medium, but about the type of stimulation. I mean the separation of sense, for example, of sight or hearing from the sensuality of human, in a sense of feeling. I try to describe the telematic experience as such, where medium is the electronic environment, ignoring the realm of physicality. An example is the bionic technology that allows the direct communication between the brain and the computer, which means that pulses arrive directly into the brain by the intracerebral processor<sup>5</sup> or as the non-invasive type of *device*. Further question concerns the possibility of

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<sup>5</sup> I mean BrainGate technology, ie. processor which is implanted into the brain of the man, in this case a paralyzed patient, who thanks to this connection with the computer has gained the ability to operate peripheral devices, which resulted from the brain work, on the basis of information flowing from the brain through intracerebral chip to the computer <http://www.youtube.com/watch?v=ypczP39fkOA>, <http://www.youtube.com/watch?v=cDiWFcA0gaw>. Another example is *Emotive*, the non-invasive device that receives impulses from the brain and allows transferring them to the computer, and controlling, for example, in the electronic environment.

transmitting such information to the brain, which could change its value - the intensity or, eg., the creation of new qualities, unfamiliar to the experience in the physical world.

**3. The value and quality.** By the value of experience I understand its importance for human - the intensity causing the emotional state. One can talk here about affection, intensity, depth, ability to build a tension. By the quality I understand the difference in formation of experiences in the physicality, with the help of the biological extensions of sensuality and in the electronic *realis* environment, where the impact is mainly caused by hearing and seeing. In the reality of electronic *realis*, the touch feeling is formed in a different way than in the case of the physical experience, but it can be compared in the value, eg. in intensity and reality, in relation to the physical experience. Quality is a way of experiencing, and the value is the experience itself.

#### **4. Why do people like to dance on the computer screen?**

The telematic phenomenon, in a weaker form, described, for example, in the installations of Sermon, Fleischmann and Strauss, is increasingly common. Especially common it is in the 3D environments, often as a part of the everyday experience. The expanding sphere of the sensory experience, for which the medium is the reality of electronic *realis*, creates the experiential, nonphysical sphere.<sup>6</sup> The technology introduces the changes into the people's lives on such level that the issue of the sensory experience in the electronic environment can be interpreted in terms of the medium, and, eg, the discussion about its truth or artificiality / simulation.

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<sup>6</sup> R. Ascott, Is there Love in the Telematic Embrace?, in "Telematic Embrace. Visionary Theories of Art, Technology, and Consciousness ", University of California, 2003, p. 244-245.

Here comes the additional issue, related to a person looking for and finding the medium for his own experiencing. In the case of mediation, the interpersonal contact may be distant in the physical sense, but close in terms of telematic experience - physicality is not so important here as perception, which may be intense. The sensory experience is associated with physicality in a natural way, but probably because physicality is the basic source of the human experience. The human world, the reality to which man returns, is changing in the age of electronics. There is increasingly larger sphere of the reality of electronic *realis*, in which human participates in a variety of ways. This applies to the changes in the way of feeling, finding a media, different from the physical world. With the change of environment, human experiences the technology, which changes the human himself and may cause changes in sensation. There is no reason to say that human is predetermined to the experience of the sensual medium of physicality. Increase in contact with the electronic being causes the flexible adaptation to the new conditions of the environment, which may also change the human experience from physical to telematic. The human develops the new ways of living, including the sensory experience.

Sitting in front of a computer in the physical world, you can, eg., experience the dance in your mind, feel and live it, you can feel the pleasure of the telematic experiencing of a dance (*The dance telematic art in the electronic world*). This is a kind of a different experience of a dance, than in the physical world, but it is still the experience of a dance. The participation in the electronic *realis* may cause the changes in the way of feeling, which can develop the experience and influence the emotional attitude to the situation in the environment of electronic *realis* (and then often in the physical world). The universality of this phenomenon, referring to the 3D environment, causes that the value resulting from such an experience becomes widely available and possible to undergo - people mostly like to dance because they enjoy it, although it is not always possible in the physical world. *In the electronic environment, you cannot dance the same way as in the physical world, but you can feel the dance in your interior, sometimes even in a new or more intense way.*

The primacy of the sensory experience is obvious in the physical world, in relation to the experience in the electronic environment. We can talk about the continuity

and variability of the human sensory experience, rather than its radical differentness - human still experiences, only, that today the telematic experience occurs and develops, resulting from the mediation in electronics. Sensory experience has a different source, though the man continues to feel. The electronic world can "touch" human so much that it can sometimes change his sensuality.

CyberEmpathy - Visual and Media Studies Academic Journal

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The Telematic Art: from the Image of *Water lilies* to Dipping the Hand into the Electronic Pond' *Realis* / S. Myoo. CyberEmpathy: Visual Communication and New Media in Art, Science, Humanities, Design and Technology. ISSUE 9 2014/2015. Cyber Art.

ISSN 2299-906X. Kokazone.

Mode of access: Internet via World Wide Web: