

# Interactive Media Arts

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## Ryszard W. Kluszczyński

Professor of media and cultural studies, Lodz University, Poland, Head of Department of Media and Audiovisual Culture. He is also a professor at Academy of Fine Arts in Lodz. He publishes widely about media and multimedia arts, cyberculture, as well as on the contemporary art theory and alternative art (avant-garde). In the years 1990-2001 Kluszczyński was a Chief Curator of film, video and multimedia arts at the Centre for Contemporary Art - Ujazdowski Castle in Warsaw. He organized numerous international exhibitions of media and multimedia art.  
rwk@uni.lodz.pl.

Antoni **Porczak**

Don **Ritter**

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Interactive art, whose first signs or perhaps traces we find in the forties of the last century, finally began to shape as a recognizable, consciously formed and continually gaining in importance stream of contemporary art only a quarter of a century later – in the seventies, especially thanks to slowly but steadily spreading applications of electronic tools and digital technology in artistic circles and their creative work. Interactive (the artist himself defined them as responsive), Myron W. Krueger's immersive environments, having the status of Augmented Reality, Douglas Davis', Kit Galloway's and Sherrie Rabinowitz's, Liza Bear's and Keith Sonnier's, Bill Bartlett's and Peter d'Agostino's telecommunications projects, and then, in the eighties, Roy Ascott's, Robert Adrian's and Nam June Paik's telematic works as well as Lynn Hershman's, Paul De Marinis', Jeffrey Shaw's, Grahame's Weinbren's and David Rokeby's installations – have launched a dynamic, multidirectional, development of interactive media art continuing to the present day.

This development was not only a phenomenon existing in art, having its source exclusively in the art world, it should not also be viewed solely as a result of the formation of the new ICTs. In fact, it was the result of a lively dialogue between the parties, art and technology, often mediated by science, and taking place with the active participation of many other protagonists. The formation of interactive art, indeed, is a part of a vast process of transformations, which in the second half of the twentieth century affected the culture of the Western world, and ultimately guiding it on the paths of globalization, pluralism, virtualization and progressive networking towards its current form. Those changes are also reflected in numerous theories and concepts in the humanities and

social sciences: in philosophy, sociology, cultural theory, the theory of communication and media, social psychology, aesthetics, literary theory and, apparently, in theory of art. A new vision of the world, human and his creations, interpersonal relationships and social structures developed in their discourses.

We should therefore acknowledge *expressis verbis* that interactive creation did not develop in a vacuum. Nor was it an isolated, unique, being ahead of its time phenomenon. On the contrary, it remained with it in a close relationship. It responded to the challenge of its time. It arose, as already mentioned, as a result of the meeting of ideas (not only artistic, but also philosophical, scientific, cultural and political ones) with modern technology that enabled it to develop and acquire social significance. It shared the properties with its cultural environment, and it found its own explanations of the intellectual concepts of its contemporaries, which were not directly addressed to it. But at the same time it was also their excellent reflection and very careful tool of their interpretation. With proper insight specific for art turning to reality it uncovered major trends of its time with critical-cognitive intentions. And because its nature is interactivity, it did so in a manner consistent with its own internal imperative, that is, in a dialogue with them.

In this essay I am attracting my interest, as indicated above, to the theories and concepts surrounding interactive art and accompanying its development. The theories, which are direct, and friendly supporting their intellectual environment. The analysis will help you better understand not only the origins and main characteristics of interactive art, but also its cultural importance and the development and nature of network ties linking it with many different areas of social life. So, I intend to make selected intellectual trends that highlight the logic of its own discourse the attributes and problems similar to the key issues and aspects of interactivity, which set up their visions of the new world order of social-cultural participation, my object of consideration. I will compare these trends with the parallel to these phenomena in the area of interactive art, as well as with the discussions and controversy developing around it, thus building a discourse relating to both of them and showing both their common ideas and kinship between them. I will reflect *inter alia* on the issues concerning the position and the role of the author in the practice and experience of art creation and related issues

of changing roles of recipients in the process of constituting the meanings of literary and artistic works, the views on the text and artwork, ideas concerning intertextual links, new visions of art and aesthetics, the development of the media and the formation of new standards and communication strategies, new ideas of social practices and the community theories arising from them. All of them set up previously the lasting and growing to this day context of the development of interactive art, they created the atmosphere, the particular *Zeit Geist*, which gave birth to the ideas and forms of interactive art. Many of them took place or originated in the sixties of the twentieth century – during the apogee of social and cultural radicalism and dynamic development of information technology. It was the decade when artists built counter-cultural vision of alternative communities, and also when the number of discoveries and inventions of epochal importance for the future cyberculture, as it turned out later, were made: in 1963 Ivan Sutherland worked out Sketchpad software, where graphic user interface (and the announcement of an object-oriented design) appeared; in 1964, Douglas C. Engelbart invented the computer mouse, opening the way for further inventions in the field of interface design, in 1965 Ivan Sutherland again developed a theory, and in 1968 he constructed the system allowing to explore virtual reality (*head mounted display*); and finally in 1969 the ARPANET project started, leading directly to the Internet. This decade directly preceded the beginning of the process of conscious making of interactive art, building for it in this way a very solid foundation.

### **THE BIRTH OF THE READER MUST RESULT IN THE DEATH OF THE AUTHOR**

As published in 1967 (in English version; French text appeared a year later) the article *Death of the Author*, very small in terms of volume, but having, especially from today's cyberculture new media perspective, powerful resonance, an extremely broad range of impact and of great importance for the emerging new concept of culture (be it on the one hand regarded as one of the foundation texts of postmodernism, and on the other as the announcement of participatory culture), Roland Barthes put forward a vision of literature, in which there is a very deep transformation of the traditional roles and functions. Indeed, Barthes

declares the end to the domination of the Author (written capitalized), the central figure of the literary world so far, the principal, in his view, the hero of the literary history discourse (Barthes draws attention there to the paradigmatic dimension of the status of the Author) meeting, what is more, the basic function of determining the meaning of a literary work. The Author – deprived of his superior role and oppressed in this way by Barthes – is transformed into a small figure looming in the background scene.

Within the traditional order of literary culture, contested by Barthes, the Author, located in a linear stream of perceived time before the moment of the appearance of the work, was not only its preceding authority and source, but also he defined its meaning and context for the permissible interpretation. The autonomy of the work was subjected to deep reductions within the traditional concepts, where it became the only voice of the Author. The recipient was only supposed to carry out the operation of unveiling the hidden meaning of the work finished, and already present in it due to its creators.

Barthes says in *Death of the Author* that the traditional concept of literary culture eventually departs into the past, and with it – as in the experience of reception plays some kind of the role of the *rite de passage* – the Author is also removed to the remote plane. Contemporary text evokes reading, in which the Author comes to be absent. Scriptor (written in lowercase, is the successor to the Author) is born with his text, and his existence does not precede writing, because, as presented it Barthes, the time of his existence is the time of his utterance, and every text is written in the eternal here and now. And since, as Barthes claims, the sole beginning and source of the text is the language, and the expression is replaced by a pure act of writing, the exegesis of the text related to the Author also becomes useless. Not only the Author, but also the Critic are therefore deprived of their existing prerogatives, the criticism (even new) is to be cancelled along with the Author. The recipient-reader seems to take a dominant position in the shaping of the new literary system of communication. The operation of removing the Author to the remote plane has been performed in order to allow the recipient to occupy the position abandoned by him. As Barthes says, the birth of the reader must result in the death of the Author. This privileged role, as it quickly turns out, however, the recipient will have to share with

the text itself. How does this affect the status of the recipient? Does it significantly weaken his position? I will return later in this essay to the analysis of the problem, also very important for the reflection on the interactive art. At this point, I only want to say that, as in the case of analogous issues in the theory of interactive art, various overlapping concepts relate to this issue here in different ways.

Referring directly in his deliberations only to the position and status of a literary author, Roland Barthes, however, indirectly also addresses his diagnosis to the artists working in other areas of art. The examples of Peter Tchaikovsky and Vincent Van Gogh prove it, to which Barthes refers beside Charles Baudelaire, when he writes that in the traditional sense the work is usually derived directly from his life. The hypothesis of the trans-literary meaning of Barthes' concept is also confirmed in his other, somewhat later, widely referred to as the aforementioned publication, in which he states *inter alia* that the theory of the text seeks the abolishment of the divisions between genres and areas of the arts. This supports the view that Barthes, writing about the transformations in the world of literature, indicates essentially the phenomenon of a much broader range, i.e. a transformation-taking place within the generally understood culture. He outlines the concept of a new order in the art world; he proclaims a new vision of culture, built on other foundations than before and defining functions, hierarchies and the relationship to its individual components in a different way. According to this new order the meaning of the work is negotiated and established in the space between the text and the recipient (in his next publications, under the influence of Julia Kristeva, Barthes also locates infinite multiplicity of other texts taking an active part in the meaning process in this space). These processes are observed in the world of literature, but they also occur in other domains of art: film, painting, music – which ultimately lead to the emergence and stabilization of the new paradigm of culture.

Transformations of artistic communication patterns, deprivation of the author's instance and its previous privileged position and replacement of the standard exegesis of the text by the individual receiving the variables of experience, occurring within the concept of transformation of the traditional model of culture, lead us in a passionate manner in the direction of interactive art. The transformations made by Roland Barthes

become in-depth and multi-dimensional representations. There, not only the meaning of the work, but also its materiality, structure and development are liberated from the authority of the Author, and the recipient takes a completely new position – that of the user, interactor, and active participant in the artistic events. Roland Barthes, announcing the death of the Author, contributed to the formation of one of the most important contexts around which problems of interactive art have developed, and then around which the stormy discussions took place.

Barthes' exceptional merits for the formation of a culture of participation were honoured in a special way by Roy Ascott, one of the precursors and the main protagonists of history of interactive art, referring directly to the Barthes' concept of the author and the text in the collective implementation of interactive telematic realisation *La Plissure du Texte* (1983). Ascott, with the assistance of his collaborators located in eleven locations distant from each other, both used and highlighted the growing potential of the computer network for the development of interactive possibilities of artistic collaboration and joint creation of telematic artworks. Ascott in a friendly dialogue with the theory of a French researcher deconstructs the traditional model of artistic communication as well as the concept of the author, introducing instead the idea of dispersed authorship and problems of the traditional opposition of subject and object in this work, whose title in an obvious and clear way refers to Barthes' book *Le Plaisir du texte* (1973), (see Shanken, 2007). Technical, financial and – we especially stress – conceptual reasons (Ascott, 2007: 241) caused that this realisation was purely a text, which, moreover, symbolized even more the kinship of Ascott's project to the context determined by considerations of Roland Barthes. Ascott proposed (continuing the logic of *Le Plaisir du texte*) in one of his subsequent work: *Aspects of Gaia: Digital Pathways across the Whole Earth*, executed in 1989 during the Ars Electronica Festival Linz, more extensive and complex interface, using a digital image and sound.

## FROM TEXT TO HYPERTEXT

As already mentioned, the recipient competes with the text for a dominant position in the new order of cultural communication. While noting this fact then, I put the question of the consequences of this situation, I asked about the status of the recipient, forced to share his prerogatives with the text. Now it is time to return to this issue. However, any attempt to consider this issue is conditioned by the perception of the position of the text itself. We must, therefore, begin by considering this problem.

Barthes in *The Death of the Author*, interpreting the status of the text in the new concept of culture proposed by himself states that it is not a continuous sequence of words behind which there could be the single sense. He calls it a multidimensional space in which different ways of writing meet and argue, and none of them has greater importance: the text is a tissue of quotations, from the infinitely many parts of the culture. This concept of the text makes it not only dependent on the language, but also on other texts, on the world of intertextual relationships. In this way, Roland Barthes puts into his considerations the perspective of intertextuality, which owes its basic concept to Julia Kristeva (she in turn derives it from the ideas of Mikhail Bakhtin). Barthes develops this perspective in *The Theory of the Text*, published six years after *The Death of the Author*, in 1973. There he examines the concept of the text as, inter alia, a significant activity and a meaningful activity (the text does not suggest the final meaning to the recipient, but participates in a never ending process of its production), as well as the intertext (text as the area of the redistribution of the language contains other texts in itself). The theory of the text in Barthes' view does not consider the work as the finite product but as a continuous production and furthermore – it stresses the equivalence (productive) of writing and reading. Each reading of the text from the perspective of textual criticism is a kind of writing, which means that critics cease to exist, and there are only writers. The theory of text itself takes the form of some kind of consequence of science of becoming (Barthes, 1973).

The text, in view of the concept of intertextuality considered in *The Theory of Text*, appears as a network of textual node. Its possible meanings emerge from the relationships between the various nodes, from the intertextual game in which the recipient plays the role of facilitator,

conductor or director. By contrast, Roland Barthes in his book *S/Z*, published in 1970, and thus occupying a middle ground between *The Death of the Author* and *The Theory of Text* offers a different perspective, directing our attention to a single text, this time not seen as part of the network, but as the whole network. This difference in this perspective is, therefore, only a change of scale of the analyzed object. The method of analysis and a way of seeing the object itself remain unchanged. The textual network has replaced the intertextual network. The category of lexis introduced in *S/Z* by Barthes (the basic component of the textual *signifier*), proved to be his next, major theoretical idea. It has become the most important instrument in his theory, in addition to the very concept of a network, serving to develop the problems of the text-network (and strictly speaking, in terms of Barthes, the text as a plurality of networks), also called by him the multiple, starry or broken one. Barthes puts there two visions of the text in opposition: text with numerous open architecture, described by him as the writable (*le scriptible*), which opposes the classical text, readable (*le lisible*), with compact and centralized meaning. The first one is, according to Barthes, an ideal form of the text, allowing to transform the reader-consumer into the creator of the text: in the literary work (in the literature as work) the idea is to make the reader no longer a recipient, but the producer of the text. The concept of the text-network or the network text, as I call it from now, plays a fundamental role in this metamorphosis. We are dealing with a multiplicity of networks in this perfect text – Barthes writes a little further – that play together in such a way that none of them could control the other, the text is a galaxy of *signifiers*, and not the structure of the *signified*; it has no beginning, it is reversible and it can be accessible through many entrances, none of which should be considered as the main one (Barthes, 1970). The multiple text leads to a very specific experience, both unstable and polymorphic, as it is itself. As the author of *S/Z* puts it: reading should be manifold, that is, without the imposed order. This vision of the experience of reception also explains why, according to Barthes, the multiple text is written by the recipient and not read. This is because the text (and strictly speaking, remember, its *signifier*) is fragmented in a number of components, just called lexis – a series of brief, contiguous fragments, arranged in parallel networks, and subjected to many different readings. The reader-scriptor while reading moves around

the organized text by many possible ways, each of them is in fact his writing, creating one of its possible variants. It is worth adding that this concept of reading-writing will get in the future, on the basis of reflection of Mirosław Rogala (and – in parallel – the one of Bill Seaman) on interactive art, an extension in the form of a concept of the recipient referred to as the (v)user, i.e. the viewer-user (Rogala, 2001).

The combination of intertextuality and multiple text as a result brings doubling perspectives, whose reference is always a network system. It takes the form of intertextual network in the macro scale, and in the micro scale – that of textual network. Both are equally characterized by an open architecture, the blurring of borders and the indeterminacy of the number and order of components (the texts in the first case and the lexis in the second one). The concept of text as an open configuration of multiple networks seems to be of more radical importance than the theory of intertextuality. Indeed, it indicates the multiplicity, where so far only unity was perceived. But only the combination of them brings a profound radicalization of the textual world, giving it a kind of fractal form. Each part of it in its form repeats the shape of its whole – the whole is reflected in its smallest passage.

The concept of network text of Roland Barthes, for obvious reasons, has been linked by researchers of new media, for example (Hayles, 2002; Landow, 2006) with Theodore H. Nelson's theory of hypertext, which is otherwise an extension of an earlier concept of Vannevar Bush called Memex (Bush, 1945). Barthes' concept which involves breaking the text into a multiplicity of lexis, connected in parallel, non-hierarchical networks, recipients' complete freedom of movement within them, linking each of them with many other similarly shaped texts and finally bringing the experience of reading to the writing experience, leading to identification fusion of the two, corresponds very closely to the theory of hypertext, as well as Xanadu project worked out by Nelson. The very concept of hypertext, created by him in 1965, defined as "non-sequential writing, which branches, offering the reader different choices" (Nelson, 1982: 0/2). It is worth noting the convergence of concepts of Barthes and Nelson proposing readers to perceive writing activity in reading practices. However, while Barthes proposes a new look at works, texts and their interrelations already operating in the social area, thereby investing his theory in the sphere of contexts of developing

interactive art, Nelson creates a vision of a new form of textual construction and its new communications platform, thus entering directly in the field of interactive art.

Hypertext in the wording of Ted Nelson has rather the nature of a pure text, and then it developed, even within Nelson's own theoretical work, in hypermedia, incorporating in its scope graphics, sounds and spoken word, video and animation besides the text. Hypertext, where you can still try to see, but I think not quite legitimately, the phenomenon constituting another dimension of theoretical and cultural context of the development of interactive creativity, already introduces us, as mentioned above (and even more this applies to hypermedia), into the world of interactive phenomena. Many links between theory of hypertext and the concepts previously analyzed by Roland Barthes, which have already been indicated, possibilities of perceiving the structural adequacy in them and – above all – fundamental and profound conceptual kinship combining them, indicate very clearly not only deep affinities between them but also the unique role of the theory of Barthes in the process of constituting the culture of participation and interactive art.

Recognizing the important link between the concepts of Roland Barthes and Ted Nelson, we should also note the fundamental difference between them, particularly clearly visible from the perspective of reflection on interactive art. Their difference results from belonging to different orders of paradigm of cultural participation. Barthes' considerations are in their entirety within the sphere of cognitive interactivity, functioning at the level of mental operations, but we must admit that they play a special role. Because Roland Barthes prepared a set of cognitive tools in his theory, owing to which he could refer to the phenomena of purely literary and artistic tradition in such a way as if they were interactive forms. The nature of these phenomena (their specific media character) caused, however, that they proved to be feasible only at the level of their meanings. Therefore, Barthes was somewhat forced to formulate (in 1971) his ideas in a clear distinction between the work and the text (Barthes, 1977). His discussion focused mainly on the text. The work as an unquestionable domain of the author escapes from research understanding proposed by him. For analogous reasons, interactive art also escapes from it, although it must be stressed that Barthes' concepts are

a very solid preparation for its analysis, including the distinction proposed by him between the work and text. I postulate in the further part of this discussion the occurrence of a similar dualism (named in another way) also in the area of interactive art, taking a different form there, but at the same time playing a similar role. Nelson's theory belongs to the order of explicit interactivity (Zimmerman, 2004; Kluszczyński, 1998), where, in my view, there is also a space for contemporary interactive art. Because of this difference I see a part of the context in the theory of Roland Barthes in which interactive art developed, perhaps even a form of its indirect explication, but I do not see the theory of interactive art in it or its direct theoretical expression. Instead, Nelson's hypertext theory may be regarded as one of the theoretical matrixes of interactive art.

Returning at the end of this part of the discussion to the question made earlier about the status of the recipient with reference to the text, we can already say that in light of the concept of Roland Barthes the first one plays an extremely important role in the analyzed meaning production processes. The meaningful productivity of the network text created within all major meaning production varieties of artistic practice (visual, sound, film, theatrical ones...), using the work of both network systems in this process: lexis order and intertextual relations order, requires, as I mentioned earlier, the recipient as a kind of a moderator with widespread powers. Since the theory of the text perceives the work/text as the continual production of meanings, since it favours the activity of reading as the primary object of research, and not the production, abolishing all the restrictions concerning undertaken interpretations, since at last it equates the value of reading and writing practices, considering them as equivalent to the source of the meanings of the text – so it is maintained in this way inevitably to the establishment of the status of the recipient as the sovereign of the text. Even the partial return of the author (already written with a small letter and named as the producer of the work) to the game does not threaten his position, in return perceived by Barthes in the *Theory of Text* as a function of one of the entities of textual practices. The preference of reading-writing, occurring parallelly to the restitution of the author, means, however, that just the recipient-reader, and not the author, has special powers in these practices.

This analysis should be supplemented by another thread. Traditional concepts of artistic communication, as Barthes points out, capture the work as a closed object, remaining at a distance from the observer, who examines them from the outside. Textual analysis however questions this externality in the name of the infinity of languages. The recipient (similarly to the author-producer of the work) is seen there as a component of the textual event, which also implies that he is not in external position, but that he is immersed in the textual world. But it also means that the role of the recipient, just considered to be paramount, in the textual practices must be agreed with the simultaneous perception of his or her status as inextricably linked with the text. The primacy of the recipient's position in this situation, in principle, his relationship with the author. The text, however, being a dynamic environment of reading-writing practices or creative-receptive ones (such a symbiosis, as I said earlier, was finally proposed by Barthes as an artistic experience concept), absorbs the recipient, making it both a common field of meaningful production practice. This does not mean, however, in my view, the domination of the text on the recipient, but rather their mutual dependence in the process of production of meanings. The text and its recipient are a complex, dynamic, open system, built upon the foundation of the work and immersed in a world of intertextual relationships.

### ONLY TEXT WORKS TIRELESSLY

In contrast to the clear and radical significance of *The Death of the Author* and *S/Z*, with the partial nature of the manifesto of a new vision of culture, *Theory of Text*, however, seems to be somewhat of a compromise attempt to negotiate a new proposed paradigm with the traditional order. It introduces a more balanced perspective, but ultimately it is also more complicated. This does not mean the abandonment of previously formulated concepts. However, Barthes does not withdraw from his previous basic assertions, but he only alleviates some of their significance (although the compromise in principle deals primarily with the way of presentation and articulation of ideas). Still, we are dealing with the position of favouring the recipient, although the author-producer of the work is in return placed on the model of textual practices. The active role of the text is stressed, which is not a reproduction but produc-

tivity (Barthes, 1973). However, the work of the text does not follow autonomously, but in collaboration with its readers. Theory of text does not consider the work as a finite product (whose destiny would be determined at the time, when it was given), but as the continual production. Successive users continue to bring new perspectives to this constant production, thus giving it an inexhaustible source of extra energy to propel the work of the text. The text, in turn, through the operation of the textual and intertextual relationships, builds a dynamic context, a (trans)textual environment, without which the reading activity would have no base and orientation.

The cooperation of the recipient with the text, as previously suggested, appears to be the foundation of every experience and all types of artistic meaningful practices in Roland Barthes' concept. It characterizes every kind of reading, any form of reception. It becomes the principal object of the approach of his studies, which have traditionally been focused solely on the work. However, this concept, although it refers to the practice of the reception unequivocally as the active ingredient in the process of generation of meaning of text, yet it does not specify clearly and unambiguously the limits of the freedom of reception, it does not simply impose the full freedom of interpretation, nor does it set restrictive rules, although many Barthes' formulations make me believe that the option of full freedom of interpretation is rather closer to him. That is the case, for example, when he writes that theory of text extends to infinity the freedom of reading (Barthes, 1973). But in other statements, in turn, he seems to undermine that position. So, I am ready to recognize, for example, that, according to Barthes, no boundaries of interpretation exist, when I read his statement: the signifier belongs to everyone, but I lose that confidence when I read further: in fact, only the text works tirelessly, and not the artist or the consumer (Barthes, 1973). Unless we assume that in the latter case we talk about never-ending, transhistorical work of text and only historical, casual, creative and receptive activity, then, and perhaps also in other similarly dubious circumstances, it would only mean that the individual experience of art is merely seen as an accidental episode in the history of the text, and in fact such a statement does not say anything explicitly about the limits of experience.

Barthes' concept of the status of the recipient against the position of the author no longer raises any doubt. I have already written about it, so now I would only add that this status is clearly defined by a delimitation of the powers of both parties. The author retains his full rights only to his work, whose creator he is. The text, however, contrasted with the work, although founded on it, developing in a language environment, is in an infinite network of links, quotes and references, and is now entirely free from traces of domination of the author. In exchange, the place for the activity of the recipient is released. As the work of the text builds and opens space for the work of the recipient, it is a textual space of emerging textual meanings. It is characterized by – as was mentioned earlier – the multiplicity, starriness and fragmentation, breakage, and multiplication. The field of collaboration of text and its recipients is so limitless in Barthes' understanding, as there is no end to the network of meanings (co)generated by them.

Distinction between the work and the text, being constitutive for the textual theory, as already mentioned, is interestingly continued in the discussion on interactive art. Indeed, it is possible to structurally distinguish similar and no less fundamental opposition, which I propose to determine as the opposition of the work – understood as a participatory event – and its dispositive. This time, however, I would say that – unlike in Roland Barthes' concept of textuality – the work does not occur on the side of the author, but on the recipient-interactor's side. This change is the result of transformations which affect artistic creation on the road leading from the traditional art of contemplated artefacts to interactive art, individual experiences, or, let us refer to the systematic division of variations of interactivity by Eric Zimmerman (Zimmerman, 2004), on the way from cognitive interactivity to the explicative one. As in the case of interactive art not only the meaning of the work (the sphere of the text) shall be removed from the domination of the author – as in the textual theory – but also (in part) its materiality and structure (the sphere of the work), the recipient-interactor takes over the task to perform, develop or establish the existence of the work of art in its new performative-contemplative form, which is the form you can also define as the meta-performative one (the interactor acts, and during this operation and its outcomes he makes them the basic reference to the work-event, and the centre of his activities and experiences). In this situ-

ation, the object of the artist's creative work is to establish the framework of opportunities for the interactor's creative work. Thus, we conclude by comparing the two types of the examined experience that the experience of art in the textual approach involves converting the objectively existing work into the subjectively formatted network text, while the interactive experience is rather seen as the transformation of intersubjectively existing dispositive into the work-event, individually designed and carried out. The gap (and the opposition) between the objectivity of the work (in textual theory) and the intersubjectivity of the dispositive (in interactive art), i.e. between the perceived objective reality and the performed socio-cultural reality, results from the presence of social and cultural factors (patterns and perception frameworks, scripting, troubleshooting methods, patterns of behaviour, conventions, value systems, etc.), having a different status than other factors and components thereof, inclining to define it as intersubjective, not – as objective, in the layer of the structure of the dispositive.

I understand the concept of the dispositive here as the context, in which the interactive work is executed (Bureaud, 2004) and also experienced. The spheres of the dispositive assigned to the artist as the creative task (specifically the design one) means that he or she, according to Roy Ascott, "[i]nstead of the creation, expression and transmission of the content, is now involved in designing the context: the contexts in which the recipient or the viewer can construct his experience and meaning" (Ascott, 2007: 279). The dispositive includes the artefact – the material product of creative work, which may be supplemented by a set of audio-visual data provided to the recipient, the technology in two aspects: hardware and software, interface, the organization of environment (mostly space) where the execution/experience take place or the use of the work, as well as any culturally determined psychological and social processes and related institutional regimes, which determine together the course of an interactive experience. All these components and factors determine the environment of the creative activity of the recipient-interactor.

The complexity of the dispositive, the multiplicity of elements and aspects existing there, and their fundamental diversity and multidimensionality resulting from them, should not, however, overshadow other,

equally fundamental properties, namely, that of the dispositive as a whole is the work of an artist and that we have to deal in this case with a peculiar form of unity formed as the foundation of the multiplicity and hybrid nature. So, can we in this case argue that, as in the case of the relationship of the author with the work within the textual theory, and similarly, can we maintain that the dispositive is fully subordinated to the artist-author? Well, this time, however, not! Everything in the concept of Barthes, over which the author has no control, was transferred to the text, which *ex definitione* is not yet subjected to the author, while the work was left as the exclusive domain of the author. However, in the case of interactive art the situation is completely different. There is no completeness and uniformity of the relationship between the author and the dispositive. On the contrary, we actually deal with a great diversity in the nature and degree of assignment of individual dispositive components to the artist. However, besides such components, whose presence in the structure of the dispositive in its entirety and which can clearly be linked to the decisions of the artist, there are also other, which he is virtually unable to influence or this influence is very limited. Most notably some of the social and cultural components, which enter the realm of the dispositive together with other, deliberately selected elements, but in contrast to them which are not placed in a conscious way, but they escape from the artist, and they are included in a completely uncontrolled and often accidental way in the sphere of the dispositive, remain beyond any influence of the artist. The technology used by the artist is to the limited degree subjected to him. For example, Woody Vasulka stressed that the creative process, which uses media technologies is inevitably a dialogue with the machine, and that he must share the creative process with the machine because it is responsible for too many elements in this work (Sturken, 1995: 27). Media technologies, especially computer ones, should therefore rather be seen as a partner in the artist's creative work, and not as a tool which is passive and completely subordinated to him. So, we have to finally accept that although the dispositive as a whole is considered to be subjected to the artist, in fact only a part of it is his or her actual product and some of its components have been included there through a conscious artistic decision.

The perception of the above-described complexity and heterogeneity of the creative work context of the recipients of the interactive art proposed by artists led me to modify its previously approved concept. I have given up the idea of identifying this full context with the work product of the artist and defining it as the artefact. Currently, I propose to include the category of the dispositive, therefore, in both of those components, which were brought to it by the artist and those that were not made by him and got there and work without his or her creative supervision. The notion of the artefact, however, remaining in this concept, refers only to that part of the dispositive, which in its entirety was introduced to it by its creator (that is, as before, it refers only to the product of the artist).

So, we should notice a large convergence of Barthes' theory of the text with the paradigm of interactive art. The blurriness of limitations of all concerned entities here, the distinction between the sphere of domination of the author (the work) and recipient's sphere of creative work (the text), the desire to consider the activity of writing and reading as one and the same process, the perception of the text and the reader-writer as components of the meaningful event – make the model of interactive event out of this theory, with the exception of its limitation to the realm of meanings. In order for this theory to become a theory of interactive art *en globe*, the area of its application should be expanded so as to include the realm of material objects to it and interpret the taken actions on its behalf in such a way that they would not be limited to mental operations. Barthes' theory of textuality can only be considered as a model of cognitive interactivity without this modification. The comparison of the theory with the world of interactive phenomena allows us also note that not all cognitive mental operations can be considered as an interactive activity. Only those operations that accept blurriness, volatility and non-finality of negotiated meanings deserve this term.

**INTENTION OF THE AUTHOR / INTENTION OF THE WORK  
/ INTENTION OF THE RECIPIENT**

The relationship between the reader and the text, whose status in the theory of Roland Barthes raises certain doubts, were quite clearly pronounced in Umberto Eco's views, as well as in the concept of his opponent with regard to them – Richard Rorty.

Eco, inter alia, considers the problem of criteria for interpretation of the text, mainly the relationship between the author, the text and its reader, in *Lector in Fabula. Cooperation in the Interpretation of Narrative Texts*, the book published in 1979. This issue has long been present in his thinking and achieved its mature form in this book. Referring to the classical model of communication situation, Eco – unlike Barthes – defines the text as the author's product addressed to the reader. The author directs his interpretation of the text there, setting the competences of his Model Reader by means of his textual strategy. If the text is assigned (by the decision of the author) a number of parallel competences, as a result of that the open text appears. The interpretation of this text, however, is not in any way released from the supervision of the author, who also in this case seeks to ensure that irrespective of the multiplicity of possible interpretations each one should become an echo of the other, so that they should not exclude themselves, but rather mutually reinforce. Umberto Eco claims, therefore, that even if there are an infinite number of interpretations of the text, none of them is entirely arbitrary, and that the concept of interpretation, however, always involves a dialectical relationship between the strategy of the author and the Model Reader's reaction (Eco, 1992). That is why he distinguishes the two ways of reading the text: the interpretation (which I presented above) and its free use, opening endless spaces of semiosis. The text only used, according to Eco, may indeed provide satisfaction described in Barthes' *The Pleasure of the Text* published in 1973, but it cannot be regarded as properly interpreted. The failure to follow the model of the rules of interpretation makes, according to Eco, reading of the text unintelligible or it becomes another text.

However, we can also find the assertion in *The Lector in Fabula* that forecasts later (limited) modification of the approach presented. Eco says there that the text is a product whose intended interpretation must be a part of its generating mechanism. We could, I think, recognize that the seed of belief that the author could delegate his control over the interpretation of the text on the text itself (making it the guardian of the requirements which were put forward by his competence) and that, in consequence, the text itself could set and validate its interpretations, are hidden in this assertion. Eco presented such a modified view in Tanner lectures in Cambridge in 1990 (Eco et al, 1992). He made a dist-

inction between the author's intention, the work and the reader-interpreter, and then disqualified the author's intention as dysfunctional in the practice of negotiating the textual meanings of text and linked the intention of the text with the interpretation, and the intention of the reader only with the use of the text. Disqualifying the author's intention, Eco points out, however, that one should understand the difference between the textual strategy – as the creation of language that Model Readers have before their eyes (they can therefore proceed independently of the empirical author's intentions) – and the history of the emergence of a textual strategy. He eventually repeats the thesis that between unavailable author's intention and the disputable intention of the reader there is a clear, transparent intention of the text, denying the interpretation, which cannot be maintained. He expresses his position more clearly in another place, maintaining the distinction between interpretation and the use of the text, saying that he can use Wordsworth's text for parodic purpose, wanting to show how the text can be read within different cultural scenarios, or for strictly personal purposes, but when he wants to interpret Wordsworth's text, he has to respect the cultural and linguistic background of the text. The link between the text and its empirical author (Wordsworth's text) attracts my attention in this citation which leads me to believe that the concept of recognizing the source of limitations of the freedom of interpretation of the text in the text itself is in fact only a different, "(post) modernized" version of the position of understanding the author of the text as playing this role. Umberto Eco, failing, as Barthes did, to make a distinction between the work (the author) and the text (the recipient) and at the same time trying to preserve the integrity of the work/text, limited the freedom of interpretation, established the text itself as the guardian of textual readings. He acknowledged, therefore, as was mentioned, that the non-respect of the requirements of the work/text in the interpretation process, will result in its obscurity, or will make it a different text. Apart from the method adopted by Barthes, however, there is yet another way of ensuring the integrity of the work, which Eco did not see, the method that does not require any repressive readings of the work. In the same year when Eco gave his lectures at Cambridge, his compatriot, Giorgio Agamben, published a book *The Coming Community* (Agamben, 1992). According to the concept presented there, you can try to preserve the

unity of the work in all its totally free readings, assigning them the status of examples. I will return to Agamben's concept at the end of these considerations.

One might think that, with regard to the issues of our interest here, Umberto Eco's concepts, developed in the seventies and realized in the final form at the turn of the next decade, are a setback for his own reflection in the early sixties. Eco, therefore, attracted the readers' attention to the development of a new dialectic relationship between the work and the interpreter in the twentieth century art in his book *The Open Work*. The novelty of this dialectics was supposed to consist in the fact that in contrast to the earlier forms of the opening of the work in which we had to deal only with the freedom of interpretation of the already finished work of art, in this case the recipient organizes the work and gives it the structure in the real collaboration with the author. Such a materially uncompleted work, which in each aesthetic experience is different Eco described as a work in motion. He found the exemplification of such works in literature, music, visual arts. But, first, many used examples such as Calder's cars, are in fact works, whose dynamics and variability have their source in themselves, and not in recipients' activities. Secondly, the work in motion, does not escape from the author's control in Eco's descriptions. As he states the work in motion creates the possibility of many individual interventions in the world that, however, remain as the author wanted them to be. So, the author leaves the work for the recipient to complete it; the finished work will be his or her own work, and not someone's else, the work will take the form, whose author he would be at the end of this interpretation dialogue. It is no surprise in this situation that Eco, seeing the recipient as the work's performer, wrote that term in quotation marks. We are, therefore, entitled to conclude that the concept of limiting the freedom of interpretation and including the recipient in the framework determined by the author or his or her text, is the constant feature of Umberto Eco's attitude.

### INTERPRETATION OR THE USE OF THE TEXT?

As I mentioned at the beginning of this part of the discussion, Richard Rorty took a radically different stand than Eco in the discussion with him. Namely, he denied the validity of the distinction between interpreting and using the text, the intention of the work and the intention of the reader. Supporting the pragmatist position, Rorty consistently held that whatever we are doing, we always use something and that there is no such a thing as internal and non-relational property (Eco et al, 1992). Thereby, he also rejected the idea of internal coherence of the text and the control exercised on its behalf by the text over all its interpretations, recognizing that the text may obtain coherence only as a result of interpretation. Rorty's opposition to the idea of domination of the text and the intention of the work is indeed the opposition to the idea that the text can say anything it wants to say itself and not only does it provide stimuli, owing to which it allows the reader to convince himself or others with more or less difficulty, what it wanted to say about this text from the very beginning.

So, Rorty entirely rejects the concept of full possibility to exercise the functions controlling the processes of reception. Does this mean that he accepts the stand that the interpreter takes over the supervision of the work and that the recipient dominates the text? I would say yes, but at the same time I would not recognize this to be an unconditional domination. In my opinion Rorty's concept, arguing for the domination of the interpreter also assumes that the meaning of a text arises as a result of his meeting with the reader that this is an interpretation, so the set of relations between the text and its recipient, and many more other elements which are the real source of the textual meaning. Rorty's reluctance to oppose the text and its interpreter and his definition of the text as the source of interpretation stimuli incline me to adopt, among other things, such a reading.

Rorty proposes to distinguish between two attitudes towards this meeting. In the first one you know in advance what you want from a person, thing, or text. In the second one, you hope that a person, a thing or a text will make you want something else, and that they will change your objectives, and thereby change your life (Eco et al, 1992). In both cases the interpreter plays an initiating and essential role for the course

of the interpretation, he just determines his expectations towards the interpreted object. I am reluctant to clearly assign the recipient the exclusive right to establish the meaning not only because an encountered person, a thing or a text essentially participate in the success of the scheme for shaping our new expectations in the second type of meeting indicated above, but, as in the first attitude, because the course and scope of the implementation of the project is at least partly determined by the properties of the object encountered. So, I would rather say that the recipient plays a dominant role in the two analyzed positions, he defines expectations towards the interpreted text and – largely – the purpose and the course of the process of interpretation, therefore the text serves as a context for the process of interpretation and partially influences the scope of undertaken procedures and their result.

If I had to compare the above views of Richard Rorty and Umberto Eco, hitherto considered in the context of reflections on the meanings of textual sources with the theory of interactive art, I would admit that Rorty's concept takes a position similar to the approach of Roy Ascott's theory of interactive art. Both of them are in fact supporters of the position that argues that the product of the author/artist only sets the context for the recipient's creative activity, which is responsible for the formation of the text or the work. Eco's position can be reasonably compared with the views of Graham Weinbren, who in turn recognizes that interactive work represents its author, as a result influencing in a significant way the recipient's interactive behaviour and the process of constructing its meaning by the original shaping imposed on it.

### LITERATURE, ART, INTERACTIVITY

Textual theory developed in the sixties and the seventies of the last century is, from the current perspective, a kind of a laboratory where ideas of the upcoming culture of participation were shaped. It outlined a map where the theory of interactive art, moving the creative activity from the world of negotiated meanings to the reality of works of art made by recipients by its line of internal discussions, tensions and oppositions. In addition to textual theory, pragmatist reflections presented here only through the discussion of Richard Rorty, Umberto Eco, and not mentioned yet the transaction criticism also influenced the context of the development of interactive art significantly.

The latter has its roots in psychoanalysis. According to the views of the author and also one of the most important representatives of the criticism of the transaction, Norman Holland, a very important area of literary research is the sphere of contact of the work and its readers, as well as the issue of reception. Theory of literature must therefore address both the text and its reception - this is the first criticism of the transactional theory, proposed by Holland in 1978, although it is worth noting that the first thesis of the transaction criticism had been published by him as late as 1968. Other theses emphasize the importance of differences in the interpretation of the same text, indicating recipients' personalities as the source of their diversity, and interpretations themselves, in turn, are treated as a source of information about their authors-recipients. It is clear for the transaction criticism that a literary work takes different forms and gets different meanings depending on who the reader is, because the transaction of literature serves to restore our identity. This does not mean, however, as Holland emphasizes that the transaction theory is subjectivist or solipsist. The interpretation of the work is establishing relationships with the text, and this relationship can be considered as a function of the identity of the recipient. But besides this, such a relationship is a variation theme on identity, and it can also be seen as a function of the interpretative potential of the text in relation to the identity of the recipient (Holland, 1978). This means that the text plays an important role in the formation of each identity variation, fulfilling the function of the context where this process evolves. In this way, transaction criticism, interpreted in this way, obtained the status analogous to the nature of the textual theory of Roland Barthes. Referring to other assumptions, and using other categories, however, it sets a creative role for recipient-interpreter of the text, which is the same as that one and it supplements the perspective of individual reception with a social and cultural contexts in the same way. Holland also expands his concept of reference beyond literature in a manner similar to Barthes, stating that it allows us not only to understand the nature of the relationship between the individual recipient and the literary work, and adding further that human receives and interprets the reality applying their own conceptual schemes to the outside world. Each of us is implicitly present in their perceptions. Sharing the concepts of Barthes, Eco, Rorty, and many other scholars of literature

and culture of that period, the theory of transaction criticism friendly co-creates a favourable context for the development of interactive art, remaining, as well as the ones in the circle of cognitive interactivity, it announced, at the same time, art theory explicit interaction in the version of Roy Ascott in a manner similar to that stated in the case of Roland Barthes.

### INTERACTION, DECONSTRUCTION, POSTMODERNISM

Deconstructive philosophy of Jacques Derrida is undoubtedly a very important philosophical and methodological context for the discussion of interactivity and interactive art. Derrida's concepts, evolving in parallel with the theory of Barthes, Eco, and Rorty, often invoked in discussions to support my own views, have already been discussed in relation to cyber-culture and interactive art in many other places (see, for example Kluszczynski, 1996; 1998), so this time I will confine myself to a brief reporting of his views on the subject, directly juxtaposing Derridian criticism of logophonocentrism and interactive art.

Derrida's proposal can be considered as one of the methodological paradigms for the reflection on interactive art. This concept liberates the work/text from dependence on or derivation from any communicated a priori sense as it acknowledges that the meanings are not communicated, but negotiated by the recipient. The work/text takes a primary position in it, though its open architecture, the unreality of the boundaries between interiority and outwardness of the text highlighted by Derrida, not only does it open to relationships with other texts, but also it introduces the recipient-the negotiator of meanings to the game. The structure of the work/text and the process of shaping meanings becomes the object of research. Therefore, the work thus understood, requires a different type of reception – participatory interpretation having the nature of the game, transformation activity oriented to “incompleteness” and non-finality. The reading of the sense is replaced by the participative co-creation of the work, which means the use of interface as a creative instrument, taking up the game, exploring a database or navigating through hypertext. The work itself becomes an event, an interactive process of communicating, which has the nature of the game (where its rules and roles existing in it need not be definitively

or explicitly defined). The cognitive function is here supplemented by the self-cognitive one, and understanding takes the form of co-participation. Creative reception, understood as communication, becomes a process of creating the meaning.

Derrida's deconstruction co-creates the context for interactive art and it also offers the perspective of its perception and understanding. Interactive media art, in turn, appears to be a perfect example of a new deconstructive and post-modern understanding of the artwork and artistic communication. Rejecting the traditional artistic dogmatism – it does not build a new scheme petrifying the world of art in its place. Just as Derrida did not replace the ideology of logocentrism by graphocentrism, but only brought the importance of the author to become one of the many contexts of interpretation, interactive art demythologized the role of the artist-demiurge, attributing a function of the designer to contexts of reception creations. The idea of the author is replaced by the concept of a distributed and shared authorship in interactive art. Art is no longer a form of representation of a finite, finished and *a priori* given world in this context. As Roy Ascott put it – “constructing art is constructing the reality, constructing networks of cyberspace, supporting our desire to strengthen human collaboration and interaction in cyber-culture in an endless process of constructing the world (Ascott, 2007: 283).

The new digital media, operating in accordance with the principle of interactivity, have interiorized the logic of the philosophy of deconstruction. As a result, there have been significant displacements in their roles and their scope of competences. The artist-author is no longer the only or even the most important creator of the meaning of the work, which is co-created in this new situation by the recipient in the process of interaction occurring in the field of the dispositive of the work. The task of the artist is to create this very dispositive: the system-context in which the recipient/inter-actor constructs its object of experience and its meaning. The recipient is not only an interpreter of meaning which is ready and awaiting his understanding, nor the subject of perception of a finite work. In fact, the structure of experience and its object depend on his activity and creative imagination. So, let us repeat: both the structure of the work and its negotiated meaning are co-created by the recipient who ceases to be merely a consumer and is in turn a (co-) creator of the work experienced.

There are many similarities between the philosophy of deconstruction and the logic of interactive multimedia art. This allows me to acknowledge that deconstruction is not only a context for interactive art, but also it is one of the methodological matrices for research on participatory creation and cyber-culture. Deconstructive categories seem able to capture and analyze all the essential features of interactive art. Thanks to them interactive communication in art can free itself from traditionally understood concepts of representation and expression, from the concept of meaning which precedes communication and pre-interpreted modernist concepts of the author and the recipient. Artistic interactive communication could become such a multidimensional, pluralistic, and infinite process of co-creation of values and meanings as well as creating new realities.

The features of the philosophy of deconstruction, which I put above in the proposed matrix of interactive art, can be regarded as having the attributes of a more widespread phenomenon – a post-structuralist theory. Hence, a kinship between the philosophy of Derrida and Barthes' or Kristeva's concepts derive. They are all parts of post-structuralism. Beside them we should also mention here the rizomatics of Gilles Deleuze and Felix Guattari as well as the theories of Michel Foucault. All of them significantly supplement the context in which interactive art developed, and their individual claims direct our attention to its various aspects, which were not always properly interpreted earlier.

### FROM TRANSMISSION TO INTERACTION

Transformations that occurred in many disciplines of humanities and social sciences in the sixties and seventies of the twentieth century, included also the theory of communication. Also, they, of course, affected the critical theory of culture, particularly founded on the study of communication, whose most famous trends, in addition to previously analyzed French post-structuralism, i.e. the Frankfurt School in western Germany and the British school of cultural studies (evolving primarily around the Centre for Contemporary Cultural Studies at Birmingham), expressed the belief in the forms of its activity that communication is a fundamental cultural activity. Thus, the study of culture had to be adapted in their programs to the needs of interpretation, the first stage

to communication practices, and then to mechanisms of the functioning of the media and media institutions, as well as studies of their participation in the processes of production or reproduction of ideological systems and the impact of these processes on the social world.

In the mid-sixties the concepts of Claude Shannon and Warren Weaver, deriving from their theory initiating the academic history of this discipline, dominated the communication studies. Shannon and Weaver proposed a vision of communication as a process in which the sender by sending a message determines both its meaning and a desirable and only appropriate interpretation behaviour of the recipient. Their book, presenting their views, i.e. the publication playing the fundamental role in the theory, perceiving the communication process in terms of transmission of messages, was entitled *The Mathematical Theory of Communication* (1949, Urbana: University of Illinois Press). Misunderstanding in the communication, occurring there, and which is relatively common, must be understood within this paradigm as a different kind of noise, interference in the channel, allowing them to be diagnosed and ultimately eliminated. Depending on the effectiveness of these corrective and controlling practices, communication can be considered to be successful or unsuccessful. The ideal of the communication, which is the exchange of messages, is a situation in which the meanings of the communiqué, encoded by the sender, are adequately (with no change or loss) decoded by the addressee/recipient of the message, when the output state of the system is symmetrical to the input state. Adequate decoding at the same time must be combined with the persuasive effectiveness. Indeed, successful communication should cause expected effects by the sender: the desired attitudes and behaviours of the recipient.

Basic axioms of Shannon's and Weaver's theories, in conjunction with each highlighted and complementary aspects of these communication practices, remained invariably present in many emerging and belonging to the same paradigm of communication concepts: that of Harold Lasswell's, focusing on the dimension of transmission and highlighting the importance of persuasive aspect; Kurt Levin's, analyzing many degrees of the flow of the communication; Theodore M. Newcomb's, drawing our attention to the stabilization aspects of communication; Bruce H. Westley's and Malcolm S. Maclean's, including the properties of

both previous concepts and at the same time highlighting the role and importance of editorial factors; and finally George Gerbner's, introducing aspects to the theory of communication which make its course relative, for example, perception, and – perhaps unintentionally – preparing the ground for the contrary theory, which finally relieved the meaning of communication from the sender's intentions, seeing them as a result of negotiations with the text message by its recipient.

Theory of communication, acknowledging the process of transmission of messages as its object, gave the priority of the function of communication to the sender, seeing in him a source of meaning of the message and a fundamental instance of the entire process. The contrary theory to it, which John Fiske (O'Sullivan et al, 1994: 50-51) describes as the semiotic one, drawing our attention to the context in which it operated, adopted, however, that the meaning of the communiqué is established by the recipient in the process of his or her negotiations with the text of the message, which takes place in the socio-cultural context. This theory does not say anything about the role of the sender opposed to the role of the recipient, but about the readers of the text (of all kinds, not just verbal ones), and negotiators of its meaning. The sender of the message no longer has any special powers, which would give a priority, in any sense, to the negotiating position in relation to the meaning of the communiqué, or to its role in the face of other users of the communiqué – it is only one of many of its readers. There are no generally successful or unsuccessful acts of communication, correct or incorrect readings of communication in the semiotic theory of communication, but only unevenly culturally contextualized readings. And if the theory of the communication process is understood as the transmission of communiqués and it assumes that every single act of communication is essentially linear, one-way transfer of information, where the communiqué is a vehicle of transmitted meaning, the semiotic theory sees the process of communication as multidimensional interactions that lead to the establishment of the provisional meaning.

Any form of communication is considered by the representatives of the modern research orientation as a form of interaction (Fiske, 1990; Thompson, 1995). They occupy such a position even when they refer to the traditional, seemingly not providing any reason for doubt about its form of communication, television broadcasting, which John Thompson

defines as "an indirect quasi-interaction" (Thompson, 1995: 84-85), indicating both aspects, which do not allow it to treat it as a form devoid of any attributes of interactivity.

Transformation, which affected the theory of communication, therefore, can be represented as a process in which the manufacturer or the sender of the communiqué is deprived of its existing dominant position in the process of communication. This clearly favoured function has been removed from the model of communication at all alongside with a hierarchical orientation existing in it so far. Instead, there is a position (dispersed in an unspecified number of receptive experiences) of the reader-negotiator of meanings of text. The concept of communication understood as a transmission process is thus displaced and replaced by the concept of communication understood as a process of interaction. All communication media, not just those which (like speech) have traditionally been seen as favouring interaction, but also those (like television), did not constitute even the possibility of a feedback and were entirely covered by the transformation under discussion in the opinion of the classical theory of communication.

Similar transformation happened to the concept of social presence of the mass media, constructed in the aforementioned critical cultural theory. Its classic form, formulated in the views of Theodor W. Adorno and Max Horkheimer (having its roots still in the thirties of the last century), considers the relationship between the media and the cultural industry, dominated by them, and their recipients on the one hand, and on the other – as a one-way relationship. Mass media overpower their recipients, they control them and enforce them the compelling vision of the world. The basic problem, which, according to the Frankfurt philosophers, which should be taken up by the media critically oriented theory, can be expressed with the question: *What do the media do with people?* This concept has evolved within the Frankfurt School itself, for example, from Theodor Adorno to Jürgen Habermas. However, the transformation of social media presence takes the form of the clearest idea in the comparison of the above-mentioned form with a well-established theory worked out on the basis of British cultural studies, which acknowledged - Stuart Hall's opposing theory to decoding seems to be a perfect example of this new attitude research – that despite the undeniable ideological role played by the mass media, their customers have

the ability to resist them. And that is why the question: *What do the media do with people?* takes the new form there: *What do people do with the media?*

All the interactions outlining here the considered processes of negotiations of meanings, have – as textual practices reported earlier – the nature of the interaction described by Eric Zimmerman as cognitive ones. Nevertheless, those interactions fulfil a more serious, more complex, and not merely cognitive function in the area of contemporary communication practices. They also play a role of the introduction to the world of communication taking place through computer technology. The processes of communication interaction proceed one step further in this world: they take the form of two-stage procedure. In the first one, there is interaction, which takes place between the user and computer tools, the instruments of communication practices. The so-called *human-computer interaction* (HCI) is now becoming a basic sphere of communication behaviours, and disciplines of contemporary research, dedicated to this area, play the role in the research on communication processes, which cannot be overstated. In the second stage, the area of interaction develops between these tools-instruments, defined as an interface in this role, and, indeed, people may be communication partners, who, however, increasingly take the form of information resources (databases, hypertexts). In the latter case, communication becomes a process of exploration, acquisition and processing of data (information), the process that encompasses the spectrum, as the concept of cultural interface of Lev Manovich (Manovich, 2006) indisputably proves, all the cultural achievements of mankind.

We may also recognize that the process of interaction in communication practices, considered here, reaches and eventually embraces the contemporary interactive art in this way, which is created with the use of digital technology. Indeed, you can reasonably argue, of course, if we abandon the vision of communication as a one-way transmission of messages that interactive art is a kind of interactive communication (Kluszczynski, 1997). The sphere of media communication practices alongside with theoretical views, transforming in the sixties and seventies of last century's, were a part of the context in which the interactive arts were shaped. Currently, it has become one of the latest matrices of the wave of participatory art – the art of digital interactive media.

## FROM CONTEMPLATION TO PARTICIPATION

Transformations of art, which followed with increasing dynamism at the end of the fifties of the last century, led many scholars, including aestheticians, to rethink the existing axioms of artistic creativity, to review a number of uncontested, as it seemed until then, findings on it. The direction of these transformations has been diagnosed unequivocally. It was felt that a new wave of avant-garde practices carried out a gradual dismantling of the residue after the Dadaistic and futuristic revolution, undermining even the artistic properties that have managed to survive a revolt and invariably characterized Western art, without leaving even the historical avant-garde. The neo-vanguard art abandoned these attributes: its objectivity and autonomy (both those of being and genre) also abandoned the idea of totality, formal stability and structural coherence.

Michael Kirby, considering the problems of experimental theatre and its multimedia surrounding in his book, *The Art of Time. Essays on the Avant-Garde*, published in 1969, also takes the opportunity to attempt to adjust the aesthetic discourse to the requirements of the reflection on the avant-garde art. What in his terms is particularly important in view of ongoing discussion here concerns the status of the aesthetic experience and its object. Kirby questioned the argument supporting their durability and immutability for all entities. He also questioned the objectivity of an artwork, the possibility of one permanent set of values characterized by him. He emphasized the uniqueness of each recognition of the work, proposing relativistic and situational aesthetics instead of objectivist aesthetics of the artefact. Art becomes a mental event rather than the material one in the term proposed by him.

The process of disintegration of the art seemed to be the most important aspect of the new situation for aesthetics, which has tried to embrace all varieties of artistic expression, including the neo-vanguard, in the field of its ordering reflection in the late sixties. Some researchers such as Erich Kahler, saw the desire for degradation and the final disappearance in the progressive loss of coherence of art, as well as the manifestation of the dehumanization of the world (Kahler, 1968). Others, more reserved in their assessments of artistic expression, were more inclined to talk about the crisis state of art theory and aesthetics. The

crisis manifested, in their view, the increasing impossibility of defining the concept of art and all derivative categories, for example, the work of art, the artist, and the aesthetic value. The first major statement, aiming in this direction, has appeared in the fifties (Weitz, 1956). The categories of the world of art (Danto, 1964) and the institutions of art (Dickie, 1974), proposed or redefined then, and allowing to understand how to relate to artistic phenomena despite the acknowledged inability to define in a traditional manner existing so far, gained in importance in that situation. It should be of particular interest to consider efforts to reformat the aesthetics then, adapt it to the new situation in the world of art in the context of the ongoing discussion here. This attempt, inter alia, was taken up by Arnold Berleant. He reviewed the current state of artistic expression existing then in the article published in 1970, *Aesthetics and Contemporary Art* and identified a number of challenges that the researchers faced, while offering the reformulation of aesthetical theses and research tasks resulting from them. Let us look at some of them.

Firstly, in the face of the changes observed in the art Berleant questioned its autonomy and ontological separation from the rest of the world phenomena attributed to it. Despite its uniqueness, artistic phenomena obtain, in his view, their identity only in the context of the experience of reality. Artists reach for inspiration to the world of science and technology, they use new materials created there and incorporate their creations in the mainstream of everyday life. Secondly, Berleant found that the latest artistic output decreases significantly the distance between the individual components of aesthetic experience. In particular this applies – in his opinion – to the recipients of art, whose position is not yet characterized by perceptual distance to work, but rather by the presence in its structure, participation, which also gives order and meaning to the work. The distance between the artist and his or her product is significantly blurred (*Action Painting, happening*). Thirdly, in Berleant's opinion, the structure of a work of art has lost its characteristic feature of unity and harmony existing so far. The idea the form as the objective of art has also been rejected, and the value of beauty as an aesthetic category has been negated. The strategy of randomness, increasingly used in art, not only reduced the distance from art to everyday life, but it also gave the unpredictable nature to created works of art and it significantly destabilized their structure. It was supported by the

temporal effects (and, I would add, given the other new features of art, including performativeness) in all types of art. Fourthly, I would like to stress that Berleant saw the disappearance of the contemplative attitude towards the art in favour of participation in its events as well as the abandonment of the assignment of its characteristics of disinterestedness to it, displaced by the various forms of engagement. Fifthly and finally, facing the loss of independence, distinctiveness, integrity and functional clarity by the individual elements of the aesthetic experience, which were proper to them so far, Berleant advocated the need for a new aesthetic theory, in which the traditional categories of the artist, the work and the recipient should be replaced by the notion of the aesthetic field, uniting all of them, which would become the same general field of the experience of art.

All aspects of the situation of art, indicated by Berleant, are, of course, very strongly linked together within the model that inspired a new aesthetic theory proposed by him. All of them also make it an attractive context for reflection on interactive art. The perception of artistic creativity as linked with science and technology, examined the position of the recipient as united with the work and other components of the aesthetic experience within the category of aesthetic field, the vision of temporalization of art rejecting the ideals of unity and harmony and the proposal of replacing contemplation as the role of a model of aesthetic experience through participation, show that aesthetics has made an attempt to adapt to the new order of art and artistic culture in the late sixties and seventies of the twentieth century, in which interactive creativity was soon to begin to play a major role. Forms, which aesthetic reflection mainstream took then, made this discipline a part of the context, which friendly assisted the development and formation of interactive art. Of course, a proposal to replace the model of contemplative aesthetic experience by participatory model played a special role. The process of adapting of the aesthetic reflection to the challenges of a new art did not occur, of course, unanimously, without any objection. The field of aesthetics existing there was a space of disputes and conflicts. The proposals for a new aesthetic theory by Arnold Berleant, along with other aesthetic concepts then shaped as Michael Kirby's Situationism, however, identified the main problems that the art formulated and attempted to solve at that time, and which shaped the model of

creation founded on the idea of participation, becoming in this sense a friendly context supporting them. The history of the project *Glowflow* (Krueger, 1991), described by Myron W. Krueger, shows how important a role this context played.

### FROM PERFORMANCE TO INTERACTIVE ART

The beginnings of Krueger's artistic path, and the works, created by him or with his participation then, deserve attention and interest not only from the interactive art historians but also scholars of contemporary art and – especially – aestheticians. His first realizations with the use of *responsive environments*, i.e. the systems responsive to the recipients' behaviours not only developed one of the major paradigms of interactivity, but also they broke the traditional aesthetic standards of art.

*Glowflow* (1969) responsive environment, over which Krueger worked with Dan Sandin (visual artist and inventor in the field of electronic systems, known at the time as the designer of visual synthesizer, in the future to gain fame as the co-author of CAVE project) and Jerry Erdman and Richard Venezsky, is precisely a major (because occurring within a single work) example of this pattern of breaking the aesthetic standards and artistic principles. This work in fact, on the one hand was a piece of audiovisual performance, awaiting a full concentration, and contemplative attitude of reception. On the other hand, due to the reactive technologies used (a computer powered by the sensor system, and configuring this visual spectacle on the basis of data supplied,) *Glowflow* was an interactive environment, which was in an interactive dialogue with the recipients.

That responsive nature of the realization, and its potential for interactivity, was, however, as reported by Krueger, a source of ambivalence with which some of its creators referred to it. Finally, most of them concluded that the interaction in the real-time would affect the contemplative nature of the work and decided to limit the interaction, and – above all – to remove it from the field of conscious experience of recipients. Firstly, the fact of the simultaneous interaction between multiple recipients and the system, which faded directness of connection (causal link) between the recipients' own actions and the reaction of the environment in their consciousness, was used for this purpose. Secondly, the

inertia of the system/dispositive, unhurriedly responsive to the stimulus provided, was used. Thirdly, further, the action of the system was slowed down at the level of programming (software) (Krueger, 1991: 12-16). As a result, the recipients, who actually triggered the processes, forming the audio-visual dimension of the realization, were able to observe, experience and – in consequence – realize this fact. The interaction, following this complex and temporal input and output system gap (actions and responses), did not develop in real time, and the entire realization was almost an illusion of a fully autonomous performance.

*Glowflow* was therefore an area of the struggle between the traditional concept of art, wishing to provide the audience with a spectacle, built in full accordance with previously formed (in the creative process traditionally understood) vision of its visual structure, and the concept of interactive art in which the creative process, preceding the experience of the work, continues in creative process of reception. These potential properties of *Glowflow*, which were ultimately rejected by the authors – the immediate, and real-time response of the system as well as the awareness of ongoing interaction, founded on this perception – are the basis for the experience of interactive art. The latter, instead of contemplation of audio-visual spectacle, proposed the audience to participate in creation, which means both the effect of that creative experience and the creative process itself. It is this aspect the interactive potential of *Glowflow* – targeting the very process of interaction/communication /creation – aroused particular opposition of the group of authors. They believed that the focus on the interactive aspects of the experience will introduce noise and it will disturb the purity of aesthetic experience. Finally, as Krueger himself estimated the result of the work, the visual concept limited the potential of interactive work, and as a result *Glowflow* gained success as a kinetic spatial sculpture rather than a responsive environment.

The conclusions that Krueger drew from the joint work on *Glowflow* led him then straight into interactive art. He recognized that interactivity should be the focus of the work, and the emphasis should be placed on the relationship between the participants – as Krueger called the recipients of his works – and the reactive environment, and not on the processes taking place among the participants themselves. The latter should receive the knowledge of the rules within the experience of art, on the

basis of which the system responds to their actions, and the system should offer a variety of conceptual relationships, and aesthetic assessment of the work should be dependent on the quality of offered interaction.

Those ideas, which attempted at the reflection on the importance of computer technology for artistic creativity, were among aesthetic discourses developed in the late sixties, and were of course in the closest relation to interactive art, which was taking its shape then. The proximity was particularly strongly driven by the kinship between the properties of the digital medium and characteristics of interactive art. Jack W. Burnham's essay *Aesthetics of Intelligent Systems*, published in 1970, is a good example of this. Burnham takes up again the attempt at aesthetic analysis of the relationship between humans and computerized environment. This relationship has, in his opinion, the nature of communication, but also it is very distant from the model of one-way transfer of messages previously attributed to art. It also rejects the contemplative model of the recipient. The artwork becomes the centre of concepts, and the form becomes a process and a system. The aesthetics in question of the intelligent systems is understood by Burnham as a kind of dialogue involving the collection and exchange of information by the two systems, each of which affects the partner's states and changes them. The user of computer technology – the recipient of digital art, should not be, in his view, perceived as an external observer, but as an integral part of the entire system. The computer, indeed, in the opinion of Burnham, unites the observer and the object of observation. Interactive computer programs have specific opportunities in this area, as they are building a platform for human-computer dialogue, the aim of which is common, creative thinking of man and a machine in real time. This dialogue is open, it consists in overcoming by both partners – the computer and man – the initial positions. Art, using computer systems, is thus a living experience (Burnham, 1970).

Computer art, aesthetics and information theories, and theories of artificial intelligence assisting them and growing in the sixties and seventies of the last century, whether in the above version of Jack W. Burnham reported above, or in terms of Max Bense, Herbert W. Franke, Hiroshi Kawano, Joseph Licklider, Marvin Minsky, Abraham A. Moles, Frieder Nake, Nicolas Negroponte and Michael A. Nolla – created together the

immediate environment in which artistic participatory creativity developed. Their substantial status gave them, however, a specific and ambivalent character. In their case, we see how friendly, but neutral environment becomes the foundation of the theory of interactive art.

### STRATEGIES AND TACTICS

The concept of performing arts of Michel de Certeau was included in the process of shaping the context discussed here in a particularly interesting way, and which accompanied the development of interactive art in a favourable way. It not only formed a conceptual framework for shaping the order of social interaction in everyday life, and at the same time it built the vision of the social world as an area in which consumers' interaction with products of cultural industries and products of market-based systems acquire creative nature and transform consumption into poaching creation. Doing so, it created both the method, tool and categories of interpretation of the phenomenon of interactivity and interactive art as an inevitable and indelible place of conflict between control and emancipation, oppression and resistance, subordination and the desire for freedom through creation. Therefore, reflections on the theory of interactive art are more appropriate than the context for a thorough comparative analysis of the concept of de Certeau. I will present here only those aspects of it, which contribute to the socio-cultural environment, supporting the development of the idea of participation, interaction, and – consequently – the interactive creation. The theory of performing arts emerged from studies conducted by a team of Michel de Certeau between 1974 and 1978. Their results were published in fragments in research journals in the years 1975-79, and then they appeared in the overall study of two-volume publication *Invention of Every Day Life (L'invention du quotidien). Performing Arts (Arts de faire)* is de Certeau's first and major part of the book. Part Two – *Habiter, cuisiner* – was prepared jointly by Michel de Certeau and his colleagues: Luce Giard and Pierre Mayola. Both the research itself as well as publications of their results belong to the period in which interactive art, created with the use of digital technology, takes on an expressive nature and it obtains distinct signs as well as – in consequence – it is slowly reaching the state of cultural visibility. All of them, like the phe-

nomena and concepts previously studied, are an expression of the newly emerging socio-cultural order in which the dominant attitude is participation and creative attitudes, gaining a diverse and dispersed form, and becoming powerful and ubiquitous.

The concept of de Certeau stems from the belief that creative behaviours appear in unexpected contexts, and the sphere of everyday consumption events is full of behaviours, whose subordination to the entities other than operating persons does not exclude their creative nature. As defined by de Certeau, searching everyday life is poaching in a thousand of ways (de Certeau, 1984). Just as researchers from the circle of *cultural studies*, Certeau points out that the study of television pictures (analysis of performances) and the time spent by the audience in front of a TV set (behaviour analysis) should be complemented by studies of what the consumer of culture “produces” from these images in that time. Because consumption, in his opinion, is another form of production and is an activity of a *bricoleur*, who creates his own creations with existing materials, it is the cultivation of creativity through the method of using the products imposed by the dominant economic order. This occurs, in his view, even at the level of linguistic communication, because it does not give a priority to the system, but to the act of speaking, so every utterance is a way of the recovery of the language by the speaking person according to the theory of performing arts in this context. Reading the text is a form of appropriation, it is the trafficking of someone else’s world, their wiles and pleasure. Numerous activities in the sphere of everyday life: living, travel, shopping, cooking, professional work (in factories, commercial institutions, offices) are, according to de Certeau, a world in which the performing arts dominate. They represent thousands of practices by which consumers recover the area occupied by the socio-cultural production techniques (de Certeau, 1984).

The strategy and tactics are the two basic categories used by de Certeau to build a model of the analyzed situation. The first one represents the structures of power, institutions, rationalized and centralized production, it is an organized and possessed place. The other is the domain of use, a form of temporary seizure and processing, an operation on someone else’s territory in order to use various options existing in it and give it a personalized meaning and value. The opposition of strategy and

tactics is determined by the advantage of the strong over the weak through the opposition of the ownership and the use, space and time, persistence and temporality, law and poaching, the fact and the possibility, knowledge and imagination. The application of so understood categories and contrasting the model determined in order to describe the social practices mean that reality is no longer seen as a sphere of separate, distinct and mutually exclusive discourses, but as the domain of modal forms, variants and variations, and the world of infiltrating opportunities. Such a world seems to be the ideal environment for the interactive creation, which we can define in a new way now: as a realm of events spreading between the strategies of artists/producers and the tactics of the recipients/users.

#### **SUBSTITUTABILITY, I.E. BEING IN THE PLACE OF THE OTHER**

Reflections on interactive art encounters numerous theoretical problems, particularly if you try to locate their object in the same domain, in which they want to include both traditional artistic phenomena and theoretical discourses related to it. Of course, we can note that these problems began to appear earlier with the occurrence of the most radical varieties artistic avant-garde. But we should also recognize that we just find the source or origins of the history of interactive art in them, we recognize the causes of its current form and differentiation in them. These affinities and similarities, i.e. those which have already been identified as numerous links between the historical avant-garde art and new avant-garde and contemporary media art, and interactive art in particular, offer also the possibility of examining the latter as the domain of contemporary form of artistic avant-garde activity as a specific continuation of radical and historical artistic alternative. Problems of aesthetics, once initiated by the radical avant-garde art are now maintained and developed by new media art.

Many of these problems arise in these discussions as frequently recurring, although in changing contexts, questions, particularly the questions about the axiomatic alternatives. Indeed, if we place interactive art in the space fixed by the artist's product on the one hand, and its performing use by the recipient on the other – we must also make certain and fundamental decisions. What is the interactive work of art?

What is the object of interpretation and evaluation? The basis of all the performances of the work created by artist? Each of the individual performances? The sum of all performances? The shared, general (hidden?) totality, potentiality, the matrix of all the individual performances staying behind all of them? What are the relationships between particular performers and between all of them and the artist? What is the status of each of them, particularly of the idea of a dispersed and shared authorship? Answers to these questions open up the field of interactive art theory and also its possible field of aesthetics. They are always a fundamental part of the adopted perspective of research, they are also associated with its other components and factors. They are also conditioned or co-determined by the context in which they are located. With regard to the questions formulated above, an inspiring context is provided by considerations of Giorgio Agamben on new community orders. The relationships between what is general and the detailed, specific, individual, take a very intriguing character in his concept presented in 1990. Being which is coming – Agamben says – is any being. The term "any" refers to the singularity non-defined by any of its properties, especially by any of the attributes that would set the membership of any community. Thus understood individual being is liberated from the false dilemma, requiring the knowledge to choose between the uniqueness of every individual and the intelligibility of what the general (Agamben, 1993).

We can use Agamben's proposal in our philosophical reflections on interactivity, considering that it abolishes, at least in part, the validity of the above-formulated set of questions to interactive art. Namely, it invalidates the resulting dilemma, resulting from the necessity postulated by them to choose between what is general and common and what is specific and individual. Agamben notes that the only concept that escapes from the above antinomy is the category of an example. An example is equivalent to all the other cases of the same kind, which belong to both their circle and are able to replace each one; and each of them can also be an equally valuable object of the cognition of being, of which it is an example. Neither specific nor general, the example is a single object. Pure individualities communicate with each other only in the empty space of the example, and they are neither related to any common property nor identity. Getting rid of any identity, they can only

acquire the adhesion itself. What is common to all of them, as also Richard Rorty and Norman Holland argued in completely different philosophical contexts, invoked before, cannot constitute their essence or set their identity. The example is the only being, of which it is an example; being does not belong to it, however, it is absolutely common. Substitutability, being in the place of the other is a feature of every being, of any, which is an example of anything. The communities of such beings -examples are thus deprived of the possibility of representation, the possibility of reference to anything other than what each of them in itself constitutes as an example.

Agamben develops the concept of commonality here, not referring to the concepts of the essence or identity. Any being postulated by him, which, in his view, is neither necessary nor accidental, is constituted by the non-differentiation of what is common, and what is appropriate, of genus and species, essence and attributes. Moreover, as Agamben argues, passage from the potentiality to the act, from a common form to the singularity, is not an event accomplished once and forever, but an infinite series of modal oscillations. Relations between them are fluid and non-final, what is common, and what the individual, constantly exchange places and functions, they are only aspects of any being. The dynamics of such a being emerges from the manner in which he passes from what is common to what is own, and from what is own to what is common. These transitions can be described as the use following Agamben.

Giorgio Agamben builds his idea of a new community on the belief that man must be his only option. Human communities have an obligation to respect that right. *Whoever* – he says – is a figure of the pure singularity. Any singularity is deprived of identity; it is exclusively defined by its relationship to a certain *idea*, i.e. a set of its possibilities. The only community that can cope with this challenge is the one that every human sees in the example of humanity, which rejects the normative identity in favour of the endless right to difference. I am never this or the other – Agamben notes – but I am always just so, so here (Agamben, 1993).

The adoption of Agamben's theory of community as the context of interactive art indicates the possibility of a theoretical solution to the dilemmas that are shaped around it. Each experience of the interactive

work-event is seen in this context as the example, the equal one, indicating a certain scope of the possibilities of the work. We are not looking any longer for hidden totality represented by the experience, because it is indistinguishable from any of its examples. This ability to interpret and determine the nature of interactive art makes it one more theoretical matrix. At the same time, however, as the context which is not attracting our attention directly to interactive art, but taking up a philosophical analysis of contemporary existential and social issues, it reveals that the dilemmas facing the theory of interactive art, in the meantime become a challenge for all humanistic disciplines, which attempt at becoming aware of the consequences of the processes shaping the present reality: globalization, media development, virtualization and universal networking. Interactive art, as already stated, is just one of many examples of these consequences, and this formulation gains new additional and important meanings in this place.

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