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Media and the Technological Turn: Truth, Power and Resistance

Abstract

The author focuses on two very topical subjects of contemporary humanistic research: media and technology, and discusses the related turns and their correlations.

The widespread debate on media testifies to the complexity of this phenomenon and its related issues. Poststructuralists, as well as scholars in cultural and media studies, have acknowledged that the media are never the transparent and neutral interfaces which represent the reality existing out there. The medium is no mediator, but the locus of truth. Whoever operates the medium operates the truth. The author uses the term media turn to refer to this epistemological turn.

We are currently witnessing an emergence of the debate on technology. Technology intervenes into the “natural” and develops non-existent systems, thus raising the question of ultimate creativity and divinity, particularly in reference to synthetic biology. The author contemplates the leverage and functioning of contemporary technology and discusses an increasingly influential theory that technology is not subordinated to man, but vice versa: people have become functionaries of technology. The author proposes that this be referred to as the technological turn.

Key words: *media turn, technological turn, synthetic biology, engineering, resistance art, creativity..*

Media and the Technological Turn: Truth, Power and Resistance

The widespread debate on media testifies to the complexity of this phenomenon and its related issues. Poststructuralists, as well as scholars in cultural and media studies, have acknowledged that the media are never the transparent and neutral interfaces which represent the reality existing out there. The medium is no mediator, but the locus of truth. Whoever operates the medium operates the truth. The author uses the term *media turn* to refer to this epistemological turn. We are currently witnessing an emergence of the debate on technology. The theory stating that technology is not subordinated to man, but rather that people have become functionaries of technology, is becoming increasingly influential. We propose this phenomenon be called the *technological turn*. Technology intervenes into the “natural” and develops non-existent systems, thus raising the question of ultimate creativity and divinity, particularly in reference to synthetic biology. With regard to the increasing power of technology, the issue of possible resistance to the power of technology is to be questioned also.

Experimental natural philosophy founded in the seventeenth century truly had faith in *perspicere* (Lat. *perspicere* from Lat. *perspicio* – to see through something, and also to perceive, to distinguish clearly) connoting patient observation of the world and its structure, gazing which gradually confirms the truth. *Perspicere* is to be essentially understood as a visual regime; it necessarily involves the sense of vision. The philosophical antipode to empiricism developed a critique of the sensual experience and replaced it with trust in rationality. The truth is not what I can see, but what I can think and comprehend. But does something change if we claim that the means of deception used in baroque visual arts, architecture, decorative arts, and literature were not truly about a distrust in the senses, but rather quite the opposite, about the power of artists who have become aware of their power to master the means of visual appearance, the means of “visual writing” and language? Art thus becomes the art of “making a sign” – and this is the mastery of constructing a representation: of bringing meaning into the picture.

For Michel Foucault, the classical episteme begins with *Las Meninas*, when representation is distinguished from resemblance, i.e. when the painting does not represent that which is simulated or depicted, but that which the whole of the semiological syntagm signifies. In literature, the beginning of the classical episteme is marked by Miguel Cervantes’ novel *Don Quixote* (1605/15), where the art of literature becomes the art of making a sign. Don Quixote is a sign, “a long, thin graphism; a letter that has just escaped from the open pages of a book.”³⁷ He is language, he is composed of words. And he writes himself. He wanders around the world among the resemblances of things. He connects the map he draws with the world. He is an early version of the Pink Panther, the example later made by Gilles Deleuze and Félix Guattari, who paints the world his shade of pink. “The Pink Panther imitates nothing, it reproduces nothing, it paints the world its color, pink on pink.”³⁸

37 Michel Foucault, *The Order of Things* (London, New York: Routledge, 2005), p. 51.

38 Gilles Deleuze, Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (London, New York: Continuum, 2005), p. 11.

Foucault's theory of representation is semiological, thus the classical episteme becomes an era of naming, signifying, building signs and constructing order: "The art of language was a way of 'making a sign' – of simultaneously signifying something and arranging signs around that thing."³⁹ We are dealing with the doctrine of *quid pro quo* in the classical episteme. The most significant technique in the visual arts is that of illusion, where the connection between resemblance and illusion is established and fictitious resemblances start to appear everywhere: "Games whose powers of enchantment grow out of the new kinship between resemblance and illusion; the chimeras of similitude loom up on all sides."⁴⁰ The Baroque is a madness of vision and visibility; innovative uses of visuality are worshipped. The position of the observer becomes important; the visible depends on the observer's position, as in the form (which is actually the existence) of the cupola depicted by Andrea Pozzo in the *Apotheosis of Saint Ignatius* at the Church of Saint Ignatius in Rome (1685–1694). The Baroque is at the same time a critique of vision. Vision and the visual become unreliable. But, again, the perception tricks of visualizations which depended on the act of observation had already appeared in the Renaissance; consider, for example, Hans Holbein's 1533 painting *The Ambassadors*.

There is a connection between the baroque games of illusion and Descartes' critique of the sensual experience beheld by Foucault. Descartes rejects resemblance as an instrument for gaining knowledge; rather it becomes an occasion for mistakes, a danger to which one is exposed if one does not study the vague area of changes. For Descartes, our judgment about the existence of wax is not grounded in the sensual experience, as we do not say that we judge that wax is there on the basis of colors and form; instead, we say that "we see wax itself if it is there before us." This demonstrates that wax is not recognized through observation with the eyes, but on the basis of perception of the mind alone. Sensual experience itself is deceptive: "I look out of the window and see men crossing the square, as I just happen to have done; I normally say that I see the men themselves, just as I say that I see the wax. Yet do I see any more than hats and coats which could conceal automatons? I judge that they are men. And so something which I thought I was seeing with my eyes is in fact grasped solely by the faculty of judgment which is in my mind."⁴¹ Thus Descartes does not trust the senses: "I had many experiences which gradually undermined all the faith I had had in the senses. Sometimes towers which had looked round from a distance appeared square from close up; and enormous statues standing on their pediments did not seem large when observed from the ground. In these and countless other such cases, I found that the judgments of the external senses were mistaken."⁴² Regardless of the method of proof that is used, Descartes is "always brought back to the fact that it is only what I clearly and distinctly perceive that completely convinces me."⁴³ It is the mind which he trusts: "So long as I perceive something very clearly and distinctly I cannot but

39 Michel Foucault, *The Order of Things*, p. 48.

40 Ibid., p. 57.

41 René Descartes, *Meditations on First Philosophy* (Cambridge: Cambridge University Press, 1996), p. 21.

42 Ibid., p. 53.

43 Ibid., p. 47.

believe it to be true”.⁴⁴

Representation does not only originate from a visual skill or visual operation, but is basically conceptual. Representation is about the mastery of the construction of semiological networks, among which one can include semantics. It is all about constructing meaning or rather *constructing reality*. For this reason, the relationship with truth changes. In the above case, truth becomes something established by the person in power. Marvelous baroque ceilings, such as those of Pozzo or Pietro da Cortona, thus do not deceive the viewer. Instead, they enrich reality. If one were to claim that these were mere illusions, we would respond using Maurice Merleau-Ponty’s critique of objectivity. In the case of the Müller-Lyer illusion involving two lines of equal length which we perceive as different in size, psychologists claim that we are wrong because they presume that there exists an objective world, and they thus postulate that our perception is fallible. But how could we know what is real, and who is authorized to tell us what this real is? In his critique of Cartesianism, Merleau-Ponty would say that there are no two lines which are *objectively* the same, though we falsely estimate their lengths because of the directions of their fins, the cause of the “optic deception.” The alternative of equality and inequality is only possible in an objective world, but these lines are neither equal nor unequal. Each is perceived in its own context, as if they did not belong to the same world⁴⁵: “We must not, therefore, wonder whether we really perceive a world, we must instead say: the world is what we perceive. In more general terms we must not wonder whether our self-evident truths are real truths, or whether, through some perversity inherent in our minds, that which is self-evident for us might not be illusory in relation to some truth in itself. For in so far as we talk about illusion, it is because we have identified illusions, and done so solely in the light of some perception which at the same time gave assurance of its own truth. It follows that doubt, or the fear of being mistaken, testifies as soon as it arises to our power of unmasking error, and that it could never finally tear us away from truth. We are in the realm of truth”.⁴⁶

All of this is linked to an acknowledgment that a medium, be it painting or literature, even philosophical writing, later also television news, is not transparent, it is not a window through which we get a look at the truth out there. This actually did not first take place with the linguistic turn in the twentieth century. It was indicated much earlier, through the seventeenth century representation or even with Renaissance’s constructions of landscapes on two-dimensional screens (or even earlier, as this technique was also mastered by the Ancient Romans). What happened with the linguistic turn and with linguistic philosophy in the twentieth century is instead the deepening of this epistemological crisis, this distrust in the mission and operation of searching for objective truth or the proper way to such truth. This was recognized in hermeneutics and phenomenology, in linguistic philosophy, and most notably in structuralism and post-structuralism.

44 Ibid., p. 48. Descartes, however, admits to the frequency with which his mind is puzzled because he cannot fix his mental vision continually on the same thing so as to keep perceiving it clearly, thus the memory of a judgment made previously may often come back when he is no longer attending to the arguments which led him to make it.

45 Maurice Merleau-Ponty, *Phenomenology of Perception* (London, New York: Routledge, 2005), p. 7.

46 Ibid., p. xviii.

Vilém Flusser establishes that technical images are not windows but images.⁴⁷ Here he follows from semiology. He summarizes what Roland Barthes claimed about photography. The medium of photography is particularly interesting since it seems to be the last fortress of the myth of media transparency, which was clearly defeated by semiology. Barthes demonstrated that *the syntagm of the denoted message*, which is a message without a code (at least a conventional code), *naturalizes the system of the connoted message* (where there are cultural codes at work).⁴⁸ To make his theory clear, Barthes focuses on the advertising image, “because in advertising the signification of the image is undoubtedly intentional; the signifieds of the advertising message are formed into *a priori* by certain attributes of the product and these signifieds have to be transmitted as clearly as possible. If the image contains signs, we can be sure that in advertising these signs are full, formed with a view to the optimum reading: the advertising image is *frank*, or at least emphatic.”⁴⁹ The issue Barthes deals with is: how does meaning enter an image, if the image is a re-presentation, a repeated presentation, i.e. a copy (because, according to ancient etymology, the word *image* should be linked to the root *imitari*)? His formulation of the question is rhetorical: “Can the analogical representation (the ‘copy’) produce true systems of signs and not merely simple agglutinations of symbols?”⁵⁰ And this is how Flusser comprehends images: “Images are not ‘denotative’ (unambiguous) complexes of symbols (like numbers, for example) but ‘connotative’ (ambiguous) complexes of symbols: they provide space for interpretation.”⁵¹ We can see that technical images are no windows, but images for Flusser, therefore they do not support the regime of *perspicere*. Furthermore, Flusser links the concept of images to that of projections. Images are abstractions of “something out there,” they make it comprehensible to us – we could even call this process *codification*. Flusser writes that the “specific ability to abstract surfaces out of space and time and to project them back into space and time is what is known as ‘imagination.’”⁵² Therefore, “[t]he world is our projection.”⁵³ Imagination is the precondition for the production and decoding of images or “the ability to encode phenomena into two-dimensional symbols and to read these symbols.”⁵⁴ Production and particularly distribution of images does not mean revealing the truth and opening up surfaces to enable insights into the depth of this truth, but rather projecting the connotations, the complexes of symbols, which are not even decoded any more: “Human beings cease to decode the images and instead project them, still encoded, into the world ‘out there’... Human beings forget they created the images in order to orientate themselves in the world. Since they are no longer able to decode them, their lives become a function of their own images: imagination has turned into hallucination.”⁵⁵ This is how we have come into the service or function of our own products.

47 Vilém Flusser, *Towards a Philosophy of Photography* (London: Reaktion Books, 2000), p. 16.

48 Roland Barthes, “Rhetoric of the Image,” in: *Image-Music-Text* (New York: Hill & Wang, 1964), p. 51.

49 Ibid., p. 33.

50 Ibid., p. 32.

51 Vilém Flusser, *Towards a Philosophy of Photography*, p. 8.

52 Ibid.

53 Vilém Flusser, *Writings* (Minneapolis, London: University of Minnesota Press, 2002), p. 90.

54 Vilém Flusser, *Towards a Philosophy of Photography*, p. 8.

55 Ibid., p. 10.

There is a crucial difference between traditional and technical images, according to Flusser: “Ontologically, traditional images are abstractions of the first order insofar as they abstract from the concrete world while technical images are abstractions of the third order: they abstract from texts which abstract from traditional images which themselves abstract from the concrete world... Ontologically, traditional images signify phenomena whereas technical images signify concepts.”⁵⁶ This comprehension could be linked to the epistemes discussed earlier: traditional images were linked to the world out there, they were resemblances; according to Foucault, they belong to the Renaissance episteme. By contrast, technical images are representations; they build upon the project started with the classical episteme. They don’t signify things out there; they are thus not transparent windows, but rather representations of concepts. They build a conventional communication system, as in language. However, there is a difference between language and technical images for Flusser: “Technical images are difficult to decode... their significance is reflected on their surface: just like fingerprints, where the significance (the finger) is the cause and the image (copy) is the consequence.”⁵⁷ Technical images are tricky because they seem to resemble, they appear to copy the world out there, but they are in fact encoded meanings. Therefore, Flusser notices a magical functioning within the technical images. This was, however, detected earlier by Walter Benjamin in his recognition of photography and film as the *loci* of ideology: “The function of technical images is to liberate their receivers by magic from the necessity of thinking conceptually, at the same time replacing historical consciousness with a second-order magical consciousness and replacing the ability to think conceptually with a second-order imagination.”⁵⁸ Technical images displace texts. The invention of photography is thus a historical event equally decisive as the invention of writing for Flusser. If history has been a struggle against idolatry, then with photography post-history begins as a struggle against textolatry. This is how Flusser speaks about the visual turn.

With the visual turn, technical images are now projected onto the world out there, although the concepts or ideologies involved are no longer under our control; they are produced and distributed faster than they can be comprehended, but they still function, the ideology still gets to work. Flusser has noticed textolatry in Christianity and Marxism: “Texts are then projected into the world out there, and the world is experienced, known and evaluated as a function of these texts.”⁵⁹ But in worshipping texts, or rather distributing the concepts encoded in texts with the distribution of the text itself, the projection was still rational, intentional, organized, whereas in the case of the new media projection we now become the functions of apparatuses.

We have exposed photography as the medium seemingly the most transparent to an attack demonstrating how this is actually a deception. However, photography still has a connection to the scene “out there,” just as the television news. What we wish to emphasize is that these are all conventional discourses, ones that are well organized; there are strategies of containment at work

56 Ibid., p. 14.

57 Ibid.

58 Ibid., p. 17.

59 Ibid., p. 12.

(to borrow John Fiske's term).⁶⁰ We put an accent on the importance of constructiveness. Marshall McLuhan recognized cubism as the art movement that clearly performed the critique of media transparency, demonstrating that the "medium is the message." Analytical cubism clearly displayed the process of analyzing a scene that took place during the process of painting, thus the painting was already very much about the painting. But it was *synthetic cubism* which truly ceased to be about the world "out there" and instead became the occasion for mastering the world by mastering painting itself. In terms of what we have discussed so far, we could say that synthetic cubism broke with the idea of the transparency of painting (if it was still alive at that time for any reason) as clearly as possible and manifested the constructive nature of painting. But, in regard to our interest, let's pay a bit more attention to the concept of *synthesis*.

Etymologically, the term originates from Gr. *synthesis* meaning composition, from *synthēnai* meaning put together, combine (*syn-*: together and *tithēnai*: put, place). In seventeenth century Lat. *synthesis* meant composition, set, collection, and from nineteenth century *synthetic* refers to products or materials made artificially by chemical synthesis, hence artificial. As demonstrated by the example of synthetic cubism, synthesis is not *perspicere*, looking through, into. It is about dominating the medium and thus the world, with taking particles from the world and constructing a new composition. It is the technique of synthesis which is at work in photo-collage, film montage and in assemblage. And it is the latter that presents the model of the rhizome for Deleuze and Guattari. Synthesis brings together diverse elements; it builds a world of heterogeneity. Baroque and Rococo's visual and decorative arts operated with synthesis in order to form new realities, worlds, new living beings, chimeras. And it is precisely the technique of synthesis that has become crucial in biology and which transforms biology from science to technology. Biology has become another field of engineering, one that engineers living structures.

Synthetic biology is a recently enthroned field of knowledge-engineering, with the application of computing to biology.⁶¹ The leading researchers in the field do not necessarily originate from the field of biology, but could also be computer scientists, which testifies to the transdisciplinarity of the field: it joins biology with computer sciences, chemistry and various technologies. For Ron Weiss (MIT), one of the founders of the field, the idea of synthetic biology is to glue together the DNA parts, which you can even get online. The biological parts with DNA sequences of defined structure and function, designed to be composed and incorporated into living cells, are called BioBricks. They are used to assemble bio circuits. The biological circuits program biological machines. They can make programmatic orders, for example: make a protein that creates blue coloring. One of the prospects of synthetic biology in medical application is to repair human tissue using bacteria. In medicine, synthetic biology promises imminent solutions with the technique of disease targeting, which would

60 John Fiske, *Television Culture* (London, New York: Routledge, 1987), chapter 15: "News Readings, News Readers," 281–308.

61 The term synthetic biology was actually introduced a century ago (Stéphane Leducs, 1910). The field became promising in the 1970s: Waclaw Szybalski was aware that it had an unlimited expansion potential with the possibility to devise new control elements and add them to the existing genomes or build up entire new genomes.

function in this way: IF cancer cell, THEN make protein that kills cancer cell, ELSE go away. Some fear that the body would recognize the genetically modified cell as a non-self and would react, for example, with a rejection or with forming a new type of cancer. To prevent this from happening, synthetic engineers see two solutions: 1) using the proteins that come from the body – this could then make an interesting contribution to the paradigm of regenerative medicine – or 2) building molecular computers, which would be capable of building the function into the RNA, thus the body would recognize it as self. MIT has built targeting technology that works in vitro, but has not yet been applied to a human body. Researchers from Stanford University focus on developing a molecular computer that could control the immune response with molecular controllers enforcing the survival proliferation of T cells (T lymphocytes), which is a process reverse to apoptosis. They believe that the new generation therapies will use this type of strategy. NASA has developed a method of targeting: synthetic organisms are to be put into the body to treat astronauts for radiation. The idea is to use engineered bacteria and combine the technique with nanotechnology: a bio capsule composed of carbon nano tubes responds to radiation and releases the therapeutic molecule. This means we are expecting a new sort of cyborg. A new field is emerging in the intersection with electrical engineering: synthetic neurobiology. The scientists at the MIT electronics laboratories (Ed Boyden) are working on developing new kinds of computers and are attempting to engineer the most complex computer – the brain. They are trying to control electrical pulses so as to be able to input information in a manner similar to inputting information into computer circuits. In order to achieve this, they use illuminators, i.e. lasers. Using the algae's ability to photosynthesize, the light pulses are converted into electricity; the proteins hit by light generate electrical pulses to control neurons. This introduction of control of the brain has been tested on mice, but not yet applied to humans. The technology seems promising for treating Alzheimer's disease.

The field of synthetic biology is actually not much different from genetic engineering – both are genetic programming, i.e. encoding a function within the DNA. Synthetic biology thus sees a challenge in finding out how to encode a specific function within the DNA. It is no wonder that one of the central figures in the field of synthetic biology was one of the central figures in the human genome sequencing project. Craig Venter has been intensively involved in synthetic genomics since 2005. He has a long-lasting belief that genomics have the power to radically change healthcare (he has recently become aware that genomics also have the power to revolutionize economy: he has worked on applying synthetically modified microorganisms to industry, particularly to the development of the next-generation biofuels). Venter is aiming to create a life form (Mycoplasma laboratorium). In 2010, his team announced (*Science*) that they created "Synthia," a kind of bacteria that never existed in nature. They successfully synthesized the genome of the bacterium *Mycoplasma mycoides* from a computer record, and the synthesized genome was then transplanted into a cell of *Mycoplasma capricolum* bacterium, from which the DNA was removed. In other words, a long DNA molecule containing an entire bacterium genome was plugged into the computer, where it was manipulated as computer software. The scientists then extracted and discarded the DNA

from a similar cell and finally they introduced the created DNA into the emptied cell. The parent of “Synthia” is a computer which came into physical existence as a DNA print. The boundaries between the computed and the biological literally blur. The creation has been referred to as “synthetic life”. However, despite the success in creating heavily customized genomes, Paul Keim notes that “[t]here are great challenges ahead before genetic engineers can mix, match, and fully design an organism’s genome from scratch.”⁶² Among the prospects in the field of synthetic biology, perhaps the most radical perspective comes from the so-called re-writers, who believe that the natural biological systems are so complicated that we should better rebuild them from scratch, in a manner providing engineered surrogates which we could better understand and interact with. The idea comes from computer sciences, where code refactoring is a technique used to restructure the code with altering its internal structure without changing its external behavior, in order to improve the code’s readability and reduce its complexity for the improvement of the source code, as well as the improvement of its extensibility.

In the late 1980s Flusser discussed the issue of “becoming godlike” with regard to biotechnology. According to his theory, if a form that had never existed before were created, this would be a *true creation*. The ambition to “create life” is either “playing God” or *mimesis* in the Aristotelian sense, i.e. the ambition to resemble the performance of Mother Nature, in this case her ultimate performance of the origin of life. The evolution of living creatures after their creation could be interpreted as the realization of God’s wish, thus the living beings have developed according to a program. Since the human species has recently acquired the self-confidence in understanding this program well enough to be able to intervene in it, change it or even apply its own program through the methods of engineering. All sorts of living structures: bodies, cyborgs, microorganisms, cells and tissues, as well as each and every population of species, including humans, have become decisively dependent on the program applied to the whole of this living world by humans. We are witnessing a new chapter of biopower.

According to Flusser, variational creation is a method of a lot of work being done using computers, but also biotechnology: “Biotechnics is doing the same thing natural evolution does – variational creativity, the sole difference being that it does its work not by chance but according to a deliberate program.”⁶³ Variational creation operates within the given possibilities, one could say within the natural apparatus, similar to how Flusser once deliberated on the pictures produced within the apparatus of photography, that every particular realization within this program exists as a potential, even if it will never be actually realized: “Every shape in which Earth’s living beings could manifest themselves is encoded within the existing genetic information as a potential, a virtuality.”⁶⁴ If Flusser is to introduce the same logic he used in *Towards Philosophy of Photography*, then he

62 Elizabeth Pennisi, “Synthetic Genome Brings New Life to Bacterium”, *Science*, 21 May 2010: Vol. 328, No. 5981, pp. 958–959. <<http://www.sciencemag.org/content/328/5981/958.full>> 7-5-2012

63 Vilém Flusser, “On Discovery,” in: *Artforum*, New York, Vol. 27, No. 7 (March 1988), p. 14–15.

64 Vilém Flusser, “On Discovery,” in: *Artforum*, New York, Vol. 27, No. 10 (Summer 1988), p. 18.

must appreciate the resistance to the program, which is to be performed by the creative agent – the artist.

If we accept Flusser's notion of true creation as the creation of living forms that have never existed before, then many products could be regarded as true creations. However, there is an original dimension of his concept, which refers to the concept of resistance to the program of the apparatus. He does not require creation of life from non-living matter, but also accepts the adding of *noise* into the communication of information. The notion of noise comes from information theory, and traditionally noise was considered an unintended and unwanted element in the communication process, which aimed at communicating the signal in its purest sense. Thus, the ordinary aim would be to purify the *signal of noise*. But if one is discussing communication critically, recognizing certain forms of communication as intended communication at work in the consolidation of dominant ideologies, then noise in such communication is to be welcomed. Such is the concept of the forces of disruption in the television discourse by John Fiske,⁶⁵ which actually consist of the noise disrupting the communication of the dominant message, the intended message of the television news. In a similar sense, art can be understood as noise in an existing discourse, subverting or revealing the logic of the dominant ideologies present within that discourse. In this context, adding noise would mean making a disturbance in the program, *resisting the apparatus of power*.

According to this conception, art is not so much about *creating* as it is about *resisting*. In Flusser's case, creation and resistance are intertwined; they are one and the same process. So far so good, but Flusser then takes quite a surprising stance in this regard: it is not necessarily an artist at work creating, it could be a biotechnologist. This is only possible if biotechnology is itself understood as resisting the program, and obviously this is how he understands it. Biotechnology is resisting the "program" of the "apparatus" of nature. But it itself has a deliberate program, according to which it does its work, thus obviously being an apparatus itself. This takes place precisely because of the theory directing the work, the concept leading to utilization, its applicability, in short: its dimension of engineering is making biotechnology resist the program of nature. But who resists the program of biotechnology? Flusser aims to contribute a defense of creativity whereat true creativity does not take place within the framework of the apparatus or according to the plan, but ensures surprises, it is about intervening into the existing processes taking place according to their program. Creativity is therefore a subversive act. For Flusser, the biotechnologist and the artist seem to become one and the same person. Resistance is directed towards nature. But if biotechnology is itself an apparatus, who resists it? Who is the creator who resists fitting into the machinery producing the variations of the program of biotechnology?

⁶⁵ John Fiske, *Television Culture*, 281–308.

“Who will be the Disney of the future?” Flusser asks and answers: “He or she might, I suggest, be a molecular biologist.”⁶⁶ Disney not only paints the world in his colors, the way Pink Panther does, but he is the one holding the pencil, the one who organizes the whole of the work from the concept to the final realization; Disney is an *engineer*. But what is the role of the engineer within the apparatus of biotechnology? According to Flusser, the engineer has the potential of being the true creator; he might be able to play God, thus being the subversive element in the game of nature. Etymologically, the term engineer appears in the early fourteenth century and means the constructor of military engines, it originates from the Old French *engigneor*, from Latin *ingeniare*; the term *ingenium* meaning the inborn qualities, talent. The term is linked to the term engine, a mechanical device, but also skill, craft, from the Old French term from the twelfth century *engin* meaning skill, cleverness, but also trick, deceit, stratagem; war machine.

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⁶⁶ Vilém Flusser, “On Discovery,” in: *Artforum*, New York, Vol. 27, No. 2 (October 1988), p. 9.

Medijski in tehnološki obrat: resnica, oblast in odpornišтво

Sažetak

Avtorica posveča pozornost dvema zelo aktualnima predmetoma sodobnega humanističnega raziskovanja: medijem in tehnologiji, ter preizprašuje povezana obrata in njune korelacije.

Širitev debate o medijih priča o kompleksnosti tega fenomena in povezanih vprašanjih. Poststrukturalisti, kot tudi avtorji kulturnih in medijskih študijev, so pripoznali, da medij ni nikoli transparenten in nevtralen vmesnik, ki reprezentira realnost, ki bi obstajala tam čez. Medij ni mediator, temveč mesto resnice. Tisti, ki operira z medijem, operira z resnico. S terminom medijski obrat se avtorica nanaša na ta epistemološki obrat.

V sodobnosti smo priče tudi vzponu debat o tehnologiji. Tehnologija intervenira v "naravno" in razvija nikoli obstoječe sisteme, s čimer se odpira vprašanje ultimativne ustvarjalnosti ali božanskosti, še zlasti v navezavi na sintezno biologijo. Avtorica premisli izvode in funkcioniranje sodobne tehnologije in preizpraša vse bolj vplivno teorijo, da tehnologija ni podrejena človeku, temveč obratno, so ljudje postali funkcionarji tehnologije. Predlaga, da to poimenujemo tehnološki obrat.

Ključne riječi: medijski obrat, tehnološki obrat, sintezna biologija, inženirstvo, odporniška umetnost, kreativnost.