

[Version edited 21.12.2007]

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**Libidinal Parasites
and the
Machinic Excess**

On the Dystopian Biosphere of Networks

A widespread taste for pornography means that nature is alerting us to some threat of extinction.
— J.G. Ballard, “New from the Sun”¹

Perhaps violence, like pornography, is some kind of an evolutionary standby system, a last-resort device for throwing a wild joker into the game?
— J.G. Ballard, *Myths of the Near Future*²

1. Porn on Diazepam and the technopathology of immaterial labour

Many western intellectuals reassured us that pornography is nothing but the ultimate embodiment of the society of spectacle and the late capitalism commodification (Baudrillard³, Agamben⁴, Zizek⁵, Shaviro⁶, to name only few). They say that it is nothing politically liberating, and at the same time nothing dangerous. In the intellectual world there is clearly an attempt to sanitise pornography, whereas we witness the rise of a politically-correct pornography (the so-called *indie porn* or *alt porn*) and a spectrum of subcultural *indie* flavours that neutralise its obscenity potential⁷ (an inflationary process of the mediasphere quite similar to that “nihilistic impulse”⁸ that Geert Lovink detects for instance as the very nature behind the disseminations of blogs). However we have to admit that today porn is no more that porn. Interestingly there is no genealogic attempt to understand why today we talk so much about pornography and why we observe a pervasive “pornification” of the collective imagery (what has been ironically defined as the “rise of the netporn society”⁹). Today we have gathered around porn respectively: moral complains, fervent subcultures, minimizing theorists. Talking

about the last mentioned, we still smell a lot of postmodernist Diazepam (aka Valium) in the air, being postmodernism a sort of cultural therapy (or cultural alibi) for western anxiety. Ballard — once again a novelist — grasps western psychosphere better than a PoMo philosopher and provides a less comfortable scenario when he says: “A widespread taste for pornography means that nature is alerting us to some threat of extinction”¹⁰. Ballard’s warning recalls the libidinal breakdown that he depicts in all his novels — the breakdown of an Empire at its sunset. But what is the reason of such a bankruptcy of desire? In the last half century pornography has become a mass and cheap commodity (and a public utility, why not), almost free in the age of the internet. Pornography is the ultimate by-product of an exhausted technological Empire: an “affective commodity” of everyday life absorbing a vast amount of social energies. The Gnostic utopia of media culture has left behind the dark sides of digital networks and did not track such a by-product. Indeed the internet managed to map point-to-point and express all the shadows of the collective unconscious — “technopathology” we could define this under-investigated field of research, a crucial but yet young discipline, today carried on by few pioneers like Mark Dery¹¹ for instance (a modern Virgilio of the internet *Inferno*).

Ballard reminds us that our ancestral reproductive instinct has not been suffocated by a stratification of layers and layers of technology: it finds anyhow its path through the channels of a pervasive mediascape and devours pornography. Ballard keeps his antennas well tuned up on the frequencies of the collective unconscious but he has no insight of the genealogy of such a global mood. Less ancestral but not less dystopian, another *technopathologist* like Franco ‘Bifo’ Berardi connects clearly the proliferation of pornography to the digital revolution that has absorbed our bodies in a completely virtualised communication where natural sensuality is missing. “In the saturated infosphere the immediate way of perception of the body is pornography”¹², Berardi says.

The electronic excitation conveyed through the entire Mediascape puts the sensitive organism in a state of permanent electrocution. Time for linguistic elaboration of a single input is reduced as the number of inputs increase, and the speed of the input gets higher. Sex is not speaking anymore. It is rather babbling, and faltering, and it is also suffering of for it. Too few words, too little time to talk. Too little time to feel.

Porn is an essay in emotional automation and uniformity of emotional time of response. Don't miss the implication between permanent electrocution, shortening of linguistic attentive elaboration, atrophy of emotional response. Pornography is just the VISIBLE surface of this neuro short-circuit. The connective generation is showing signs of an epidemic of emotional atrophy. The disconnection between language and sexuality is striking. Pornography is the ultimate form of this disconnection.

Berardi seems sceptical about the adaptability of humankind to a new technological environment. Ballard, on the contrary, suggests that pornography (or any violent phenomenon like that) might be precisely a "wild joker" thrown into the genetic game to trigger a different destiny. However, we may not exclude that a new generation of human beings will develop cognitive and physical skills to adapt their sexual life even to an over-stimulating mediascape. For now we have to admit that internet pornography is the dark side (or grey side) of the computer-based production, a side effect of the cognitive energies co-opted by the revolution of digital machines. Statistics¹³ on hand, we should not talk anymore about network society and immaterial labour without mentioning netporn.

2. Thermodynamics of pornography

Usually we defend pornography just on the basis of a free expression and free speech paradigm – we say, we don't need theory to deal with our bodies. On the contrary the pornography debate applies unconsciously different models of pleasure and desire. Even when we are defending a free expression scheme with the typical liberal detachment, we are using each time a specific model of pleasure. Generally speaking we can introduce two distinct schools: those who believe that libido is a *limited energy* and those who believe that libido is an *endless flux*. Deleuze (following Nietzsche against Freud) introduced desire as an affirmative repetition in his book on masochism, *Présentation de Sacher-Masoch*¹⁴ (whereas Freud on the opposite considered obsessive repetition as a manifestation of the death drive in his *Beyond the Pleasure Principle*¹⁵ — and obsession repeatedly returns even in any discourse around netporn). In the following works with Félix Guattari Deleuze's

notion of desire embraces an ever-expanding schizo-machinic Spinozism (starting from *Anti-Oedipus*). Berardi criticises Deleuze and Guattari precisely because they did not foresee depression as a possible natural consequence of their *schizo* enthusiasm¹⁶, even if somehow Deleuze and Guattari covered depression in the chapter "How do you make yourself a body without organs?"¹⁷, where different kind of bodies are introduced (hypochondriac body, paranoid body, schizo body, drugged body, masochist body, etc.). The basic assumption behind Berardi's position is that libidinal energy is limited and that we cannot party all the time.

There is no reason why a "flux" should be strictly framed as a physical or biological flow of matter (and therefore "measured" as limited). However it could be interesting to re-design a thermodynamics of desire after Deleuze and Guattari and their hydraulics of feelings and machines and flows. If we put an eye on the human being, we are inclined to translate the First Law of Thermodynamics in "In any process, the total desire remains constant" and the Second Law (more interestingly) in "The entropy of desire constantly increases" — it means in other words that our energy goes senile. Pornography is unconsciously framed by its detractors as an assault on the whole energy capital of an individual or society. There is a sort of thermodynamic parsimony applied by right-wing censors or left-wing sceptics to the consumerism of pornography. But even porn producers and heavy downloaders know that porn can not be consumed under unlimited conditions. Curiously porn imagery is the only imagery whose "meaning" is directly connected to our degree of physical excitement: have you ever tried to watch a porn movie at breakfast or in any unusual situation? The libidinal "significance" vanishes for the most. Porn images are quite peculiar, they talk to our animal scopophilia, a sort of ancestral cinema for our reptile nervous system. It is impossible to judge a porn picture because each of us has a completely different quality of libidinal desire – and we should be tolerant of pansexuality as well as asexuality, of high degrees as well as low degrees of libidinal excitement.

Pornographic images consume our flows of desire and at the same time they are produced by those. How to deal with this libidinal economy? Before an aesthetics (of porn, in this case), there should be a materialist ethics of energies and forces. However this scenario is never simply binary. Between the school of "endless flux" on one side and the one of "limited libido" on the other, we encounter for example Bataille and the human drive for excess. In Bataille¹⁸ sexual

instincts constantly challenge and destroy human identity and are tied up in a double-bind with beauty and animality, unable to escape contradictions and impossible to be reduced to a quasi-thermodynamic paradigm. There is never equilibrium according to the second law of the thermodynamics of desire. Even when we defend pornography we deal with a desire that it is never definable and predictable. “Technical machines only work if they are not out of order. Desiring machines on the contrary continually break down as they run, and in fact run only when they are not functioning properly”, Deleuze and Guattari say¹⁹. There is always a surplus of libido drifting around. Here I am trying to frame the materialistic forces behind desire and not to develop a “porn ethics” (an useful experiment, by the way). As Andrew Ross warn us, it is difficult to civilise desire:

Finally, we must take into account the possibility that a large part of pornography’s popularity lies in its refusal to be educated; it therefore has a large stake in celebrating delinquency and wayward or unauthorized behavior, and in this respect is akin to cultural forms like heavy metal music, whose definitive, utopian theme, after all, is “school’s out forever”. To refuse to be educated: to refuse to taught lessons about maturity and adult responsibility, let alone about sexism and racism; to be naughty, even bad, but mostly naughty; to be on your worst behavior—all of this may be a ruse of patriarchy, a ruse of capitalism, but it also has something to do with a resistance to education, institutional or otherwise. It has something to do with a resistance to those whose patronizing power and missionary ardor are the privileges bestowed upon and instilled in them by a legitimate education. Surely there is a warning here for intellectuals who are committed today, as always, to “improving” the sentimental education of the populace.²⁰

3. Libidinal parasites and the negentropy of machines

Digital machines have always been framed as symmetrical devices, where energy gets in and gets out and input energetically equals to output, according to a widespread belief in the smooth, free and painless reproducibility of binary data. Media culture (but more brilliantly digital music²¹) tried to focus on the status of errors and glitches but only within the combinatory structure of the digital code – a claustrophobic perspective with no attention to the biological and analogue context

that machines have to inhabit. At the beginning of “machine criticism” and dystopian literature, decades before the proliferation of Turing machines, Samuel Butler claimed a *continuum* between organic and machinic world in his novel *Erewhon*²². As McLuhan comments: “As early as 1872, Samuel Butler’s *Erewhon* explored the curious ways in which machines were coming to resemble organisms not only in the way they obtained power by digestion of fuel but in their capacity to evolve ever new types of themselves with the help of the machine tenders. The organic character of the machines, he saw, was more than matched by the speed with which people who minded them were taking on the rigidity and thoughtless behaviourism of the machine”.²³

I illustrated an entropic model around netporn to show how the dominant technoparadigm is partial in its fetishism of digital code and abstract spaces: there is always a dissipation of energy, a “nihilist impulse” affecting machines too. However there is an opposite process that is more interesting: the accumulation of living energy against natural entropy, what Erwin Schrödinger calls *negentropy* in his book *What is Life?*²⁴ and that makes a biological model more intriguing than a thermodynamic one. Machines like organic cells consume and dissipate energy but at the same time they are able to accumulate, condense and store energy. Material or immaterial objects produced by machines can be considered such concretions of energy. Machines are defined usually as devices that transmit or *transform* energy, and – we could add, more interestingly – that *store* energy. However I do not suggest that machines may belong to a separate autonomous realm as in a predictable *sci-fi* plot. Media *and* humans have been always interconnected in a collective system of communication that functions as a big condenser of information and attractor of attention. Networks can be seen as a massive device for accumulation, re-distribution and storage of energy. Networks grow everyday – continuously bigger than the previous day. As soon as they reach a critical mass, as new biological species do, they trigger a new process. Internet itself has grown from BBS to Second Life and its form of organisation has passed through different stages of accumulation, condensation, hegemony and crisis.

After the desiring capitalism depicted by the *Anti-Oedipus*, the affective dimension of contemporary production has been highlighted by Negri and Hardt in *Empire* and other works²⁵ on “affective labour” (ending up in the celebration of the power of joy in Saint Francis of Assis). What they call “biopolitical production”

translates Deleuze and Guattari's "desiring production", but with the difference that Hardt and Negri push on the conflict of living labour to give a tensive arrow to an "immanent plane of desire" that otherwise would appear too indeterminate:

Deleuze and Guattari discover the productivity of social reproduction (creative production, production of values, social relations, affects, becomings), but manage to articulate it only superficially and ephemerally, as a chaotic, indeterminate horizon marked by the ungraspable event.²⁶

However Hardt and Negri's ontology is not very specific about the spectrum of affective productions and it is not covering many perverted, contradicting and obscure feelings of contemporary psychosphere (including the so-called "dark side of the multitude" and its amphibious nature²⁷). Anyhow even with respect to Deleuze and Guattari's intuitions, we should look more carefully at these dirty engines to grasp the extraction of libidinal surplus-value. What defines a machine (or a network) is always a relation to a surplus. Media like biological organisms function in an unclean and viscous way – eating and defecating, but there is always an unforeseen tension towards accumulation of new energy. Actually Deleuze and Guattari introduced three kinds of desiring machines and not simply one: desiring machines that produce, cut or consume – but it seems that only a generic type met success. Their mecanosphere frames capitalism in quite a complex scenario, crossed by a chaotic interlacement of flows, on the basis of an continuous energy streaming above. For Deleuze and Guattari desire is an infinite flux.

[...] every machine is a machine of a machine. The machine produces an interruption of the flow only insofar as it is connected to another machine that supposedly produces this flow. And doubtless this second machine in turn is really an interruption or break, too. But is such only in relationship to a third machine that is ideally – that is to say, relatively – produces a continuous, infinite flux: for example, the anus-machine and the intestine-machine, the intestine-machine and the stomach-machine, the stomach-machine and the mouth machine, the mouth machine and the flow of milk of a herd of dairy cattle ("and then, and then, and then..."). In a word, every machine functions as a break in the flow in relation to the machine in which it is connected, but at the same time is also a flow itself, or the

production of a flow, in relation to the machine connected to it. This is the law of the production of production.²⁸

Deleuze and Guattari highlighted here more the assemblage of machines and production rather than the accumulation of energy. The libidinal “accumulation” – in the form of collective investment – happens around paranoid poles (the Father, the Family, the State, etc.). Which function do media have in a scenario of widespread libidinal accumulation? Traditionally media have been described as information channels, body prostheses and mimetic devices. I try to frame them as libidinal organisms, more specifically symbionts or better libidinal parasites under the concept of the extraction and accumulation of libidinal surplus-value. Surplus-value is another way to name the excess of energy and its exploitation or enjoyment. Libidinal surplus-value is a way to name the tension that drives the media economy and evolution. As an example we can frame internet pornography videos as symbiotic organisms being a structural part of digital networks. The simulacra of pop stars are affective parasites too. “Spectacular” machines indeed work as parasites because they channel our libido and accumulate it — in a very physical way. Media parasites absorb our libidinal energies as a surplus and condense it in the form of attention and fetishism towards brands, technology, material and immaterial commodities. By the word ‘parasite’ no moral judgement is implicit — perhaps libidinal parasites are just a new generation of organisms (together with “emotional media” and “affective commodities”) which we are just starting to get familiar with.

Michel Serres in his book *The Parasite*²⁹ described human relations as a never-ending parasitic chain – “the parasite parasitizes the parasite”. Each organism is a parasite of another. Human beings themselves are parasites of the whole nature. The global communication system itself is a parasitic system. What is missing in this picture of the parasite is the accumulation and extraction of a surplus, that are typical of any form of life (and organisation). I suggest here to introduce the concept of parasite as an engine of accumulation rather than an element of “pure mediality”.³⁰

4. Vortices accumulating crystals of time

What has to be clarified about the critical discourse around communication machines (i.e. media culture and activism) is that they are never a neutral tool for free speech, free culture and free cooperation – not such a serene and peaceful scenario, they incessantly accumulate energy below the surface. The accumulation of the surplus-value in any form (libido, attention, information, data, even electricity) and its breaking-point should be the political focus of a critical media culture, as much as the discourse about *free cooperation*³¹ and *free culture*.³² For sure all the forms of *collective intelligence* and *creative commons* driven by technology may represent a real hazard against capitalistic accumulation of surplus-value, but beside or underneath the immaterial layer there is always a material by-parasite that is never seriously confronted. The interesting part of the movie *The Matrix* (indulging in a plot that everybody knows) is less the virtual reality game than the parasitic role of the digital world above the human bodies: in the year 2199 intelligent machines have taken control on human beings and exploit them as energy source, growing countless people in pods and harvesting their bioelectrical energy and body heat. Beside and thanks to any digital *commonism*, accumulation still runs.

Squeezing the usual Foucauldian paradigm, we may say that such molecular and pervasive parasites embody a biopolitical function previously performed by old media and institutions on a broader scale. Lazzarato is more precise and accurate in his book *Videofilosofia* when he writes that electronic technologies freeze “crystals of time” out of the living time of their users — those “crystals” are but moving images that become parts of the immaterial assembly line of Post-Fordism.

The central hypothesis around which our work is organized is that *electronic and digital machines, as well as intellectual labour, «crystallise time»*.³³ [...] Image is never something that works upon lack, absence, negativity. Image is not something added to the real to represent it, but it is the texture itself of the being.³⁴

Here Lazzarato frames video-electronic media as autonomous engines able to produce and accumulate time in the same way that as memory and imagination do. The accumulation of “crystals of time” through moving images is a crucial intuition

that Lazzarato clarifies in the same years of the book *Lavoro immateriale*, but only an abstract understanding of the concept of immaterial labour has been well received. Following Bergson and Deleuze, Lazzarato develops a sophisticated notion of moving image that is no more the flat simulation of postmodernists but a device screwed into flesh and reality. I take the intuition of video technologies as engines of time accumulation to introduce them as parasites of libidinal accumulation as well — where Lazzarato put duration and time we can put desire and libidinal energy.

Electronic and digital technologies (but even the cinema) are «mechanics» that *autonomously produce image*. Retaking one of Simondon's intuitions, instead of defining them as simply external extensions of the senses of the human being (as a lens in respect to an eye), they should be understood as “engines” capable of a “relative autonomy” in respect to the man. Different from mechanical and thermodynamic engines «that take a [kinetic and potential] energy from the outside», they are indeed engines that accumulate duration and time. And if memory and imagination can be defined as «organic engines» *that accumulate and produce time*, video technology and computers may be defined as non-organic engines that work upon the same principle.³⁵

Out of any virtual reality dream, back to the analogue world, each media assemblage becomes a small or big vortex of accumulation, each device an energy parasite. Time and desire are attracted and crystallised, and then transformed and condensed in other forms. What has to be clearly pointed out is that parasites are never “immaterial” — they transform always our fluxes in something really tangible. Netporn convert libidinal flows into money flows and siphon daily a huge bandwidth on a global scale. Netporn transforms libido in pure electricity. Exactly like file-sharing networks reincarnate as an army of MP3 players, Free Software helps to sell more IBM hardware and Second Life “avatars consume as much electricity than Brazilians”³⁶. The libidinal surplus is extracted and channelled across the technological infrastructure and invested into the infrastructure itself, into the imagery or into other devices connected and depending upon that network. Accumulation of libidinal surplus turns easily into money, attention, visibility, spectacle, material and immaterial commodities.

5. Hunting for surplus

This overview tries to wrap some concepts around the notions of energy surplus and desire, investigating entropy and negentropy within the media biosphere. Moving from Marx's accumulation of surplus-value to Bataille's excess, and from Deleuze and Guattari's desiring production to Schrödinger's negentropy, I have tried to condense a nodal point in the theoretical figure of the libidinal parasite. To escape the impasses of the current media theory, I have suggested to define a machine (or a network) as something always in relation to an external surplus and not as a virtual system apart. Following Michel Serres we can describe the whole mediascape as a parasitic chain. The field is vast and we need a more detailed cartography to investigate in a proper way different intuitions such as Ballard's visions about media and ancestral instincts, Berardi's "pathologies of hyper-expressivity" and Lovink's "nihilist impulse" – all affecting the contemporary mediascape. Personally I focused on internet pornography as it represents a radical case study about the extraction of libidinal surplus-value by the society of the spectacle.

Pornography could be considered the ultimate commodity because the instinct of the Kind become itself the basis for the extraction of surplus-value by the mega-Machine — there is something truly apocalyptic in this. Paradoxically there is no alienation (and no subversion): in the context of softcore advertisement or hardcore pornography our sexual desire reinforces the new electronic superstructure of humankind. At the end pornography is concerned about the preservation and reproduction of humankind as much as any fundamentalist church, even if in the form of a wild joker.

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Berlin-Amsterdam, May-June 2007

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- ¹ James G. Ballard, "News From the Sun", 1981, in: James G. Ballard, *The Complete Short Stories*, London: Flamingo, 2001.
- ² James G. Ballard, *Myths of the Near Future*, London: Cape, 1982.
- ³ Jean Baudrillard, "What Are You Doing After the Orgy?", *Traverses* n. 29 (Oct. 1983).
- ⁴ Giorgio Agamben, *La comunità che viene*, Torino: Einaudi, 1990. Trans.: *The Coming Community*, Minneapolis: University of Minnesota Press, 1991. "To appropriate the historic transformations of human nature that capitalism wants to limit to the spectacle, to link together image and body in a space where they can no longer be separated, and thus to forge the whatever body, whose *physis* is resemblance—this is the good that humanity must learn how to wrest from commodities in their decline. Advertising and pornography, which escort the commodity to the grave like hired mourners, are the unknowing midwives of this new body of humanity."
- ⁵ Slavoj Žižek, *The Plague of Fantasies*, London: Verso, 1997. And: Slavoj Žižek, "No Sex, Please, We're Digital!", in: *On Belief*, New York: Routledge, 2001.
- ⁶ Steven Shaviro, "Survey on pornography", *Text Zur Kunst* n. 64, 'Porno' issue (December 2006).
- ⁷ See Florian Cramer, "Sodom Blogging: Alternative Porn and Aesthetic Sensibility", in K. Jacobs, M. Pasquinelli (eds), *C'Lick Me: A Netporn Studies Reader*, Amsterdam: Institute of Network Cultures, 2007.
- ⁸ Geert Lovink, "Blogging, the nihilist impulse", in *Zero Comments*, New York: Routledge, 2007, www.eurozine.com/articles/2007-01-02-lovink-en.html
- ⁹ One of the definition proposed by "The Art and Politics of Netporn" conference, Amsterdam, 2005, www.networkcultures.org/netporn
- ¹⁰ James G. Ballard, "News From the Sun", cit.
- ¹¹ Mark Dery, *The Pyrotechnic Insanitarium: American Culture on the Brink*. New York: Grove, 1999. And: Mark Dery, *Escape Velocity: Cyberculture at the End of the Century*. New York: Grove, 1996.
- ¹² Franco 'Bifo' Berardi, "The Obsession of the (Vanishing) Body", in *C'Lick Me: A Netporn Studies Reader*, cit.
- ¹³ See for instance: "Caslon Analytics: adult content industries" report, accessed June 2007, www.caslon.com.au/xcontentprofile.htm
- ¹⁴ Gilles Deleuze, *Présentation de Sacher-Masoch: le froid et le cruel*, Paris: Minuit, 1967.
- ¹⁵ Sigmund Freud, *Jenseits des Lustprinzips*, Leipzig: Internationaler Psychoanalytischer Verlag. 1920.
- ¹⁶ Franco 'Bifo' Berardi, *Félix*, Roma: Luca Sossella Editore, 2001.
- ¹⁷ Gilles Deleuze and Félix Guattari, *Mille Plateaux*, Paris: Minuit, 1980.
- ¹⁸ Georges Batailles, *L'érotisme*, Paris: Minuit, 1967.
- ¹⁹ Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, Paris: Minuit, 1972.
- ²⁰ Andrew Ross, *No Respect: Intellectuals and Popular Culture*, New York: Routledge, 1989.
- ²¹ See: Kim Cascone, "The Aesthetics of Failure: Post-Digital Tendencies in Contemporary Computer Music", in *Computer Music Journal* (Vol. 24, No. 4, Winter 2000), MIT Press.
- ²² Samuel Butler, *Erewhon, or Over the Range*, 1872.
- ²³ Marshall McLuhan, *The Mechanical Bride: Folklore of Industrial Man*. New York: Vanguard Press, 1951.

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- ²⁴ Erwin Schrödinger, *What is Life? The Physical Aspect of the Living Cell*, Cambridge: University Press, 1948.
- ²⁵ Michael Hardt, "Affective labour", in *Boundary 2* (vol. 26, no. 2, Summer 1999). And: Antonio Negri, "Value and Affect", in *Boundary 2* (vol. 26, no. 2, Summer 1999).
- ²⁶ Michael Hardt and Antonio Negri, *Empire*, Cambridge MA: Harvard University Press, 2000.
- ²⁷ Paolo Virno, "La multitud es ambivalente: es solidaria y es agresiva", interview, *Pagina 12* (25 Sept. 2006), Buenos Aires, www.pagina12.com.ar/diario/dialogos/21-73518-2006-09-25.html
- ²⁸ Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, cit.
- ²⁹ Michel Serres, *Le Parasite*, Paris: Grasset, 1980. Trans.: *The Parasite*, London: Johns Hopkins University Press, 1982.
- ³⁰ As "pure mediality" in: Stephen Crocker, "Noises and Exceptions: Pure Mediality in Serres and Agamben", *Ctheory* (28 Mar. 2007), www.ctheory.net/articles.aspx?id=574
- ³¹ Trebor Scholz and Geert Lovink (eds), *The Art of Free Cooperation*, New York: Autonomedia, 2007.
- ³² Lawrence Lessing, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*, New York: Penguin, 2004.
- ³³ Maurizio Lazzarato, *Videofilosofia. La percezione del tempo nel postfordismo*. Roma: Manifestolibri, 1996, p. 14 [translation mine].
- ³⁴ *Ibid.*, p. 15.
- ³⁵ *Ibid.*, p. 83.
- ³⁶ Nicholas Carr, "Avatars consume as much electricity as Brazilians", *Rough type* (5 Dec. 2006), www.rough.type.com/archives/2006/12/avatars_consume.php