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Is the virtual of virtual technologies the Deleuzian virtual?

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Abstract. Gilles Deleuze has become a key reference for the recent debate on virtual technologies, as his conception of the virtual is widely used to argue for the reality of virtuality. Nonetheless some scholars, among which Slavoj Žižek stands out, have warned about the risks of flattening the Deleuzian concept on the tech debate. This paper aims to show why the two concepts of the virtual do not overlap by explaining some features of the Deleuzian virtual that make it incompatible with virtual media. Namely, its intensive dimension, its relationship with the possible and its imperceptible nature. The paper will also claim how differentiating the two concepts opens up wider applications for the Deleuzian virtual while, at the same time, lightening the tech debate of its ontological burden, allowing to approach the issues of virtual technologies from a more fruitful perspective – that is to say, their pictorial functioning.

Keywords: virtual, Gilles Deleuze, Virtual Reality, intensive.

With the advent of new media and digital technologies, beginning around sixty years ago with the Digital Revolution, we have increasingly started to talk about virtuality. The case of virtual reality, as a «technology that convinces the participant that he or she is actually in another place by substituting the primary sensory input with data received produced by a computer» (Heim [1998]: 221) is certainly emblematic, but it is just the tip of the iceberg and only one of the most recent examples of the application of virtuality in the tech domain. Many other technologies based on and experiences allowed by the digital have been labelled in the years as virtual.

The concept has rapidly become a sort of *passe-partout* predictable of many different actions and places that found in the digital medium their common denominator: from virtual meetings to virtual exhibitions, passing through virtual museums, virtual stores, virtual dating, virtual researches, and so forth.

However, this pervasiveness is symptomatic of a certain conceptual vagueness that hovers around the term: what exactly makes some-

thing virtual? What is the difference between a virtual experience and a «computerized» one (Tavinor [2021]: 26)? How does virtuality function?

Heavily contributing to the confusion is an ontological prejudice that often overshadows the study of the functioning of virtual technologies: in the everyday discourse, virtuality seems to allude to the phenomenon of dematerialization through digitalization; a virtual meeting is a remote meeting from which the physical presence of participants is excluded, a virtual exhibition can show a computer-generated version of an artwork without needing the presence of the original object, and so on. Virtual seems therefore to be used as a synonym for an artificial/computer-based experience, presupposing a sort of opposition between materiality and dematerialization. The problem is that, in this dualism, while materiality takes the role of the essential feature of reality, dematerialization often evokes the semantic field of fiction and illusion.

This is because, as Brian Massumi points out,

The word “virtual” came into everyday use [...] as a rider on “reality”. The rider overrode: the connotation was unreality – in the phrase “virtual reality”, the adjective virtual stood as a synonym for artificial. Artificial, in this context, meant illusionary. The context, of course, was dramatic registering in the popular imaginary that enormous changes were on the horizon with the dawning of the digital age. (Massumi [2014]: 55)

Technophobia is not the only reason for these suspects of unreality. As Joaquim Braga claims, «in Western philosophical thought, there has been, for centuries, a clear primacy of the “actual” over the “virtual”» (Braga [2019]: V), and this «metaphysics of presence» (Derrida [1967]) has reverberated on the discourses belonging to the technological studies and to everyday language, contributing to shed a negative light on virtuality.

In recent years, the debate on virtual technologies has expanded, focusing mainly on the phenomenon of virtual reality, but, despite the efforts at clarification, it is still largely in the shallows of this patina of unreality, and many of its questions remain open.

1. GILLES DELEUZE AS A POINT OF REFERENCE

Whilst the use of the term in contemporary culture seems almost exclusively related to the digital, the concept of the virtual (used as a substantive, rather than an adjective) has a karstic but richer history in the Western philosophical tradition.

Narrowing the focus to the contemporaneous, in the France of the second half of the 20th century Gilles Deleuze, Pierre Lévy, Philippe Quéau, and Paul Virilio, to name the most important, have investigated the modal status of the virtual.

Despite the synchronicity with the advent of the new media, these thinkers were mainly focusing on reconnecting virtuality to its etymological meaning. «Derived from the Latin word for strength or potency, the base definition of the virtual in philosophy is “potentiality”» (Massumi [2014]: 55) and explaining this realm of force was the main objective of the debate. A pivotal role in the discussion was played by Gilles Deleuze who, together with Félix Guattari, has made the virtual one of the key concepts of his theoretical proposal.

The French debate of those years has not escaped the later thinkers engaged in the clarification of the virtual in its technological applications (in particular, the ones of the last decade) and Gilles Deleuze has become a point of reference in the most recent virtual media studies. Proof of this can be seen in the centrality of the references to his work in almost any academic discourse on virtuality: from *Aesthetics of the Virtual* by Roberto Diodato (2005), to *The Oxford Handbook of Virtuality* edited by Mark Grimshaw (2013), passing through *Conceiving Virtuality: From Art to Technology* edited by Joaquim Braga (2019), and to *Aesthetics of Virtual Reality* by Grant Tavinor (2021).

If the recourse to Gilles Deleuze seems by now a necessary step in the debate around virtual technologies, there are also some philosophers that believe that the use of the Deleuzian virtual in relation to the issues raised by virtual reality is

unjustified: «the first determination that comes to mind apropos of Deleuze is that he is the philosopher of the virtual – and the first reaction to it should be to oppose Deleuze’s notion of the virtual to the all-pervasive topic of virtual reality: what matter to Deleuze is not virtual reality but the reality of the virtual (which, in Lacanian terms, is the Real)» (Žižek [2004]: 3). If Slavoj Žižek position is, in accordance with his style, particularly radical, he is not the only one to believe that the Deleuzian notion has little to do with the phenomenon of virtual technologies. Also Brian Massumi ([2014]: 55-70), Paulo M. Barroso ([2019]: 133-144), and Jonathan Roffe ([2005]: 176, 177) have supported this line.

The motives for considering the use of the Deleuzian virtual improper are not limited to observing that, for historical reasons, the French philosopher could not and does not directly refer to the phenomenon of virtual reality. They run deeper and they concern the meaning and the motives behind the use of this concept in Gilles Deleuze’s ontology. But they also regard different views on how virtual technologies should be addressed.

If the use of the Deleuzian concept is at least controversial, why do many scholars belonging to the tech debate refer to it? We believe they do so because they find it particularly useful in fighting against the ontological prejudice mentioned before. One of the most known formulas Gilles Deleuze uses to describe the virtual, borrowed from Marcel Proust, is indeed: «Real without being present, ideal without being abstract» (Deleuze [1964]: 58). Through it, Gilles Deleuze claims the reality of the virtual, refusing the distinction between reality and virtuality. The virtual is real because the criterion for reality is not presence and materiality, but «a capacity of real transformations in a system» (Simondon [2005]: 56).

The Deleuzian concept can therefore be used to claim that virtual technologies are real, insofar as they produce effects. It is in this sense, we believe, that ontological claims such as «virtual reality is a sort of genuine reality, and what goes on in a virtual reality is truly real» (Chalm-

ers [2017]: 309) should be understood. What is important to underline is that Gilles Deleuze does not restore reality to the virtual by endowing it with presence. What he does is undermine the equation “real = present”. Therefore, when applied to the tech debate, the Deleuzian concept does not allow to claim for the presence of virtual objects, but only for their effectiveness.

Anyhow, what seems important for the tech debate in this regard has probably more to do with the expanded Deleuzian conception of reality, rather than with his specific idea of the virtual, whose belonging to the real is just one of its specific traits and whose most notable consequences should probably be found elsewhere. Furthermore, we suspect that the mixing of the two debates, instead of resolving the ontological prejudice, risks complicating the issue even more, as the Deleuzian virtual is often presented as the same virtual of virtual technologies.

2. THE REALITY OF THE VIRTUAL

When Gilles Deleuze introduced the concept of the virtual, he did not have in mind virtual technologies. What he was interested in, on the contrary, was transformation, becoming. As it is known, Gilles Deleuze belongs to a school of thought – what Rocco Ronchi calls the «minor canon» of philosophy (Ronchi [2017]) – that theorizes the primacy of becoming over being, of difference over identity, and it is precisely in this context that the creation of the concept of the virtual should be understood.

Gilles Deleuze’s problem was the creation of novelty. How is it possible to explain the new, the «aberrant» (Lapoujade [2014]), when the Western philosophical tradition only focuses on identity, stability, eternity, substance, and when being and thinking are conceived as forms of *mimesis*, representation (Deleuze [1968])?

The question, in those years, was perceived as particularly pressing not only for philosophical reasons (even though important Deleuzian predecessors can be found in the «minor canon» of

philosophy), but also because of the changing paradigm in the sciences (physics in particular) and the experimentation in the arts of the beginning of the century. In all these different fields a new, more dynamic – even chaotic, unpredictable, allo-tropic, and creative conception of reality started to emerge.

Gilles Deleuze wanted to propose a metaphysics up to the mark of science and to the artistic experimentations of the avant-gardes. In trying to do so, he had to revolutionize and overturn many of the common places of Western thought, restoring dignity and reality to the ever-changing and non-conforming and, in this metaphysical effort, the virtual played a pivotal role.

Being so implicated in his philosophy and having a multitude of important forefathers, bloodlines and lines of contagion, the concept of the virtual (and the sufficient reasons for its creation) cannot be exhaustively explained here. We will therefore focus on its characteristics that, we hope, will show why it should not be superimposed on the virtuality of the tech debate.

2.1 *Intensive and Extensive*

We will start by claiming that, for Gilles Deleuze, the real is composed of two dimensions: one is extensive and the other is intensive. One is the realm of bodies and their interactions, the other is the one of force and energy. Both are real because, as we have seen, both produce effects. The extensive dimension of reality is what Gilles Deleuze calls the actual. The actual is what exists. The virtual, on the contrary, does not exist – because it does not have extension – but it insists. The relationship between the virtual and the actual could be thought of as the relationship of a force applied to a body: we can experience the effects of a force, but never the force in itself. This is because the result of the force has not a mimetic relationship with the force; the virtual expresses itself through heterogenesis, creating the new.

However, things get immediately more complicated since, from *The Logic of Sense*, Gilles Deleuze also claims that the virtual is a «surface

effect» of the bodies (Deleuze [1969]: 4). The virtual is not only a domain of force insisting on the actual, but also an immaterial effect of the interactions between bodies.

After all, those who are acquainted with the Deleuzian philosophy know that paradoxes are at the centre of his logic. And this paradoxicality has noble origins. It comes from the Stoics, a central reference for the Deleuzian notion of the virtual: «The Stoics saw clearly that the event is subject to a double causality, referring on the one hand to mixtures of bodies which are its causes and, on the other, to other events which are its quasi-cause» (Deleuze [1969]: 94).

This circularity between actuality and virtuality ensures that the virtual is not to be understood as a foundation of extension: the virtual does not chronologically precede the actual, because it is not a transcendental dimension of reality. Virtual and actual are two dimensions of the same immanent reality, so that everything has both an actual and a virtual side, as two sides of a coin.

One way of characterising becoming is with the following schema: virtual/real <-> actual/real <-> virtual/real. What such a diagram points to is that becoming is not a linear process from one actual to the other; rather it is the movement from an actualised state of affairs, through a dynamic field of virtual/real tendencies, to the actualisation of this field in a new state of affairs. This schema safeguards the reversible nature of virtual and actual relations. (Boundas [2005]: 297)

The creation of novelty could also be thought of as a paroxysm: it happens when the virtual, insisting on a state of affairs, becomes unbearable and forces the system to change, reconfiguring itself. But when the virtual becomes actual is not exhausted, rather it changes too, in a circularity that allows for the emergence of the true and immanent difference. In this sense, a way of understanding the Deleuzian notion of the virtual is to trace it back to the conception of individuation of Gilbert Simondon (2005), a key reference for the Deleuzian ontogenesis. In a nutshell, what Gilbert Simondon claims is that the individual

should never be thought of as absolute and atemporal, because it is the result of a deeper process, that of individuation, in which it is generated from the interaction of different fields of forces. This domain of forces is called the preindividual. The virtual, as the preindividual, is that intensive domain from which individuation is triggered. But the individual does never free itself from it, as the preindividual, or the virtual, continues to insist on it and to make it change, in a common processual feedback system.

2.2 *Virtuality and Possibility*

In the framework of a systemic «metaphysics of presence» characterizing Western thought, another more specific polemical target of the Deleuzian concept of the virtual is that of possibility.

According to the philosopher, virtuality should not be conceived as a synonym for possibility, since possibility is sterile, while the virtual is reality's «crucial site of the struggle; everything is ultimately decided here» (Žižek [2004]: 28). Possibility is something that only appears *a posteriori*, when a principle of identity is given, and constitutes a mere variation of the theme, while identity is conserved. The virtual, on the other hand, does not resemble anything, does not refer to anything: it is pure becoming.

In this sense, only the virtual is real: «rather than expressing abstract alternative possibilities, virtual multiplicity forms something like a real openness to change that inheres in every particular situation» (Roffe [2005]: 177). On the contrary, the possible is tautological and redundant, it does not add anything to reality, does not change anything, because it is a mere copy functioning by restoring a principle of identity and, therefore, a transcendence. Possibilities do not change a system, there are logically constructed and do not have effectiveness on the real. The virtual, on the other hand, does it necessarily.

The process of realization is subject to two essential rules, one of resemblance and another of limitation. For the real is supposed to be in the image

of the possible that it realizes [...]. The virtual, on the other hand, does not have to be realized, but rather actualized; and the rules of actualization are not those of resemblance and limitation, but those of difference or divergence and of creation. (Deleuze [1968b]: 96)

When arguing against possibility, Gilles Deleuze does not only resume a Bergsonian argument: he also has in mind his transcendental empiricism, as opposed to the Kantian transcendental method (Deleuze [1963]). According to him, when Kant claims that he wants to grasp the conditions of *possibility* of experience, he falls into the problem of the possible. This means that his method only allows him to grasp empty possibilities for experience, constructed by keeping the subject as a principle of identity, without being able to catch the real conditions for experience to emerge. On the contrary, Gilles Deleuze wants to destroy the principle of identity granted by a fixed subjectivity, pushing its faculty to its limits and accessing that chaotic and ever-changing domain of reality, where the real production of experience takes place – that is, the virtual.

2.3 *The Virtual as Imperceptible*

We have seen how, for Gilles Deleuze, the virtual is not a specific characteristic of particular technologies, but an intensive dimension of reality allowing the emergence of the difference. Everything has both an actual and a virtual side, as these dimensions constitute the ontology of reality. Virtual technologies do of course belong to this reality, but not because they represent its virtual pole. On the contrary, they are subjected to this logic of becoming as every other process of individuation: being, for Gilles Deleuze, is univocal. The two concepts of the virtual therefore respond to two very different sets of problems.

Still, there is another feature of the Deleuzian virtual that renders it definitively incompatible with the virtuality of virtual technologies. That is, the Deleuzian virtual is imperceptible. Being an intensive dimension of reality, the virtual can

never be perceived in itself: it manifests, expresses itself, in the actual, but what is perceived are only its effects, the changes it produces. This is linked with the difference posed between possibility and virtuality: while the possible is only a mere copy of reality, the process of actualization is an heterogenesis, it proceeds by differentiation and its result is always new and unpredictable, radically different from the virtual insisting on it. Perceiving the effects of the virtual, therefore, does not make us capable of perceiving it.

As Brian Massumi claims: «Neither the future, nor the past thickening the present for it, is sensuous. The sensuous elements in play envelop the nonsensuous past and future in the materiality of their impinging on the body. They are the leading edge of the forming event, bringing past and future together in the present of their bodily impingement» (Massumi [2014]: 61).

On the contrary, virtual technologies are perceptible, they rely on a medium that has a strong materiality and they produce a sensuous representation of reality.

The fact that Gilles Deleuze and Félix Guattari also claim that the virtual «“must” be perceived, it cannot but be perceived, the imperceptible is also the *perciendum*» (Deleuze, Guattari [1980]: 281) should not be misconstrued. We have already seen that the paradox is a procedure dear to Gilles Deleuze and to explain it is sufficient to show the two senses in which the virtual is simultaneously imperceptible and «it cannot but be perceived». We have seen that the virtual is imperceptible because it is what insists on the extensive, and only the extensive is perceived by the senses. Nonetheless, being both quasi-cause and effect of the bodies, the virtual is what grants the field of perception. It is in this sense that the virtual cannot but be perceived, because it is at the base of all possible perceptions. What changes is the point of view:

It is the plane of organization and development, the plane of transcendence, that renders perceptible without itself being perceived, without being capable of being perceived. But on the other plane, the plane

of immanence or consistency, the principle of composition itself must be perceived, cannot but be perceived at the same time as that which it composes or renders. (Deleuze, Guattari [1980]: 281)

What is important to note here is that, even if Gilles Deleuze connotes the virtual as what «cannot but be perceived», there is no possible reference with the phenomenon of virtual technologies: virtuality, for him, remains a domain of force and not a technique of expression and representation.

3. THE HERITAGE OF THE DELEUZIAN VIRTUAL

To deny the flattening of the Deleuzian concept of the virtual to the virtuality of virtual media does not mean depriving it of its possible contemporary application. On the contrary, we believe that freeing it from the tech-debate can open up broader futures for it. Considered in its full sense, as a solution for the immanent creation of novelty and for ontogenesis, the Deleuzian concept of the virtual has indeed a much richer legacy than the one it currently has in relation to virtual reality.

In this last section, we will briefly provide a few examples, each belonging to a different field: from science to ethics and ecology, and lastly to aesthetics. These examples will inevitably be very partial; nonetheless, we consider them useful in the perspective of suggesting what could be a more productive heritage for the Deleuzian concept. Furthermore, we claim that this differentiation also benefits to the virtual media issues, by reducing the ontological confusion hovering around the debate.

For what concerns the sciences, a meaningful example of application of the Deleuzian virtual can be found in the recently published *Differential Heterogenesis* (2022), by Alessandro Sarti, Giovanna Citti and David Piotrowski. In this work, the differential virtual is a central tool for thinking about individuation as «a matter of composing fields of force» (Sarti et al. [2022]: 2) and for

renewing the mathematics underlying heterogenesis. The Deleuzian intuition is used to provide a formalization of a radical dynamic of metamorphoses, of which an empirical example can be found in the brain. As the authors claim,

Today [...] we are dealing with the possibility of providing a renewed epistemic depth to the conceptual elaboration of Deleuzo-Guattarian heterogenesis. We intend to do this by both reconsidering the mathematical research of sub-Riemannian geometry, on the one hand, and by further developing a concept of heterogeneity capable of taking dynamics into account. (Sarti et al. [2022]: 5)

But the fortune of the Deleuzian concept also reverberates on ethical and ecological issues, as the virtual allows for thinking about reality as a constructivist and impersonal immanence, where the emergence of novelty is always possible and does not depend on human beings. And these intuitions have been used to rethink and renegotiate our relationship with non-humans in an ecological way. An example of this can be found in what Rosi Braidotti calls an «Affirmative Ethics» (Braidotti [2019]), that is to say a critical posture capable of creating alternative imaginaries and new forms of life, rather than focusing on the negativity of present time. And this posture is based on the virtual, as Rosi Braidotti uses it to claim that: «the present does not coincide flatly with a here and now [...]. The present, the contemporary, is multi-layered and multi-directional. We are always dealing with the virtual past, what “we will have been”. We are always projected/projective futures, always dealing in a time continuum» (Braidotti [2019]: 465).

Lastly, a final suggestion from the aesthetics. In this domain, the Deleuzian virtual has contributed to a direction of thought that has been working on conceiving affects and feelings as forces independent of subjectivity. Rather than being felt by a subject, affects would be something that precede and triggers individuation, as the virtual. As Alessandro Sarti claims: «the becoming of the individual unfolds, furthermore, in relation to a field of forces composed of kinetic and dynamic

as well as perceptive and affective forces» (Sarti et al. [2022]: 1). The theme of the «autonomy of the affect» (Massumi [2002]) follows from the conception of the virtual as what «cannot but be perceived» (Deleuze, Guattari [1980]: 281). If the virtual cannot be perceived from a subject, precisely because it precedes individuation, at the same time, it must be perceived as something insisting on what is individuated and changing it, something that undermines the perceptive thresholds.

4. CONCLUSIONS

We have started this paper by pointing out a certain confusion in the contemporary debate on virtual technologies. We have shown how an important factor contributing to this conceptual vagueness is an ontological prejudice according to which virtual technologies would not be real. The reasons for this prejudice belong to at least two sets of problems: the technophobic ones and the Western primacy of the actual.

It is, we believe, to address these suspects of unreality that Gilles Deleuze has been heavily called upon in the debate on virtual technologies. His conception of virtuality is in fact not opposed to and fully belongs to reality as, for him, the criterion of reality is not presence but effectiveness. But the recourse to Gilles Deleuze's concept risks bringing more disadvantages than advantages: even if his conception of reality helps fighting the ontological prejudice, the parallelism between his idea of virtuality and the one related to the tech debate can be strongly misleading.

With his concept of the virtual, Gilles Deleuze wanted to include in his ontology the «existence of an energetic, non-material world» (Simondon [1982]: 6) that could explain the emergence of the difference without postulating a transcendental level of reality. The reasons and the applications of the Deleuzian concept of the virtual are therefore very different from the virtuality implied in the new media. To show this incompatibility we have considered three main characteristics of the Deleuzian virtual: its intensive character, its oppo-

sition with the concept of the possible and its imperceptible nature.

Lastly, we have claimed how separating the Deleuzian virtual from the virtual of virtual technologies does not deprive the Deleuzian concept of an interesting future in the contemporary debate. On the contrary, relieved of its post in the tech debate, the Deleuzian virtual can embark on other meaningful philosophical enterprises in different fields. Among the others, we have suggested that it can have an important role in thinking about differential heterogenesis from a scientific (mathematic) point of view, it can help define what Rosi Braidotti calls an «affirmative ethics» (2019), or its legacy can be used in the aesthetic domain to theorize an autonomous conception of the affects.

What we wanted to suggest by showing that the virtual of virtual technologies is not the Deleuzian virtual is not only a wider meaning of the Deleuzian concept, but also that, by lightening the debate from the ontological burden, another possible approach to the issues of virtual technologies could emerge. As Grant Tavinor has shown in his last book, *The Aesthetics of Virtual Reality*, to address the problem of virtual technologies (VR in particular) from an ontological perspective distracts us from the real problem: the pictorial function of these media. Rather than focusing on the ontological status of virtual worlds and objects, he claims «how people use virtual media to do things» should be under study (Tavinor [2021]: 135)¹. Grant Tavinor is not the only scholar

¹ About Grant Tavinor's book, it is interesting to note how he falls into the same problem of flattening the Deleuzian concept of the virtual to the technological debate, blaming Deleuze's lack of clarity for the confusion between the two terms. In the note number 5 to the second chapter of his book, Tavinor writes «An often-cited precedent of this view is Gilles Deleuze (2002), who argues that the informative contrast for the term "virtual" is "actual", rather than "real". Unfortunately, Deleuze's work is not particularly helpful in clarifying the issues here as his paper is marred by repetitive, overstretched metaphors and jargon appropriated from physics (mixed, it seems from electrical engineering, nuclear physics optics)». However, as we have tried to demonstrate, the reasons why the Deleuzian concept of the virtual is not very use-

believing that ontology is obscuring more interesting issues, of all the representation functioning and potential of virtual technologies. As Bruce Damer claims,

In arguing against using the earlier term virtual reality, I often stated, "there is nothing virtual about the reality of being in-world with other people". I felt that the cognitive immersion experienced in these spaces was as compelling as that created by the storytelling in the caves of Lascaux, by the actors in the classical Greek theatre, by the great novelist and filmmakers, or by the wizards in textual worlds of MUD predecessors. (Damer, Hinrichs [2014]: 22)

Separating the two virtuals can therefore be fruitful to both domains: the Deleuzian (and ontogenetic) studies and the debate on virtual technologies, as clearing the field from possible superimpositions can help focus on the specificity of virtuality as a medium. Rather, if a technological heritage is to be found in relation to the Deleuzian virtual, we suggest looking for it in a philosophy of technics that enfranchises the technical medium from its purposes, granting it a virtual dimension of creativity and unpredictability.

REFERENCES

- Barroso, P.M., 2019: *The Reality of the Virtual in Deleuze's Transcendental Empiricism*, in Braga, J. (ed.), *Conceiving Virtuality: From Art to Technology*, Springer Nature, Cham.
- Boundas, C.V., 2005: *Virtual/Virtuality*, in Parr, A. (ed.), *The Deleuze Dictionary*, Edinburgh University Press, Edinburgh.
- Braga, J., 2019: *Preface*, in Braga, J. (ed.), *Conceiving Virtuality: From Art to Technology*, Springer Nature, Cham.
- Braidotti, R., 2019: Affirmative Ethics and Generative Life, "Deleuze and Guattari Studies" 13 (4), pp. 463-481.

ful for the tech debate should be found elsewhere, and blaming his philosophical style only exhibits the same misunderstanding.

- Braidotti, R., Bignall, S. (eds.), 2019: *Posthuman Ecologies. Complexity and Process after Deleuze*, Rowman & Littlefield, London.
- Chalmers, D.J., 2017: *The Virtual and the Real*, "Disputatio" 9 (46), pp. 309-352.
- Conley, T., 2005: *Space*, in Parr, A. (ed.), *The Deleuze Dictionary*, Edinburgh University Press, Edinburgh.
- Damer, B., Hinrichs, R., 2014: *The Virtuality and Reality of Avatar Cyberspace*, in Grimshaw, M. (ed.), *The Oxford Handbook of Virtuality*, Oxford University Press, Oxford-New York.
- Deleuze, G., 1963: *Kant's Critical Philosophy. The Doctrine of the Faculties*, The Athlone Press, London, 1984.
- Deleuze, G., 1964: *Proust and Signs*, The Athlone Press, London, 2000.
- Deleuze, G., 1968: *Difference and Repetition*, Columbia University Press, New York, 1995.
- Deleuze, G., 1968b: *Bergsonism*, Zone Books, New York, 1997.
- Deleuze, G., 1969: *The Logic of Sense*, Columbia University Press, New York, 1990.
- Deleuze, G., Guattari, F., 1980: *A Thousand Plateaus. Capitalism and Schizophrenia*, University of Minnesota Press, Minneapolis-London, 2005.
- Derrida, J., 1967: *Of Grammatology*, Johns Hopkins University Press, Baltimore, 2016.
- Diodato, R., 2005: *Aesthetics of the Virtual*, SUNY Press, New York, 2012.
- Grimshaw, M. (ed.), 2014: *The Oxford Handbook of Virtuality*, Oxford University Press, Oxford-New York.
- Heim, M., 1998: *Virtual Realism*, Oxford University Press, New York.
- Lapoujade, D., 2014: *Aberrant Movements. The Philosophy of Gilles Deleuze*, The MIT Press, Cambridge-London, 2017.
- Massumi, B., 2002: *Parables for the Virtual. Movement, Affect, Sensation*, Duke University Press, Durham-London.
- Massumi, B., 2014: *Envisioning the Virtual*, in Grimshaw, M. (ed.), *The Oxford Handbook of Virtuality*, Oxford University Press, Oxford-New York.
- Protevi, J., 2013: *Life, War, Earth. Deleuze and the Sciences*, University of Minnesota Press, Minneapolis-London.
- Roffe, J., 2005: *Multiplicity*, in Parr, A. (ed.), *The Deleuze Dictionary*, Edinburgh University Press, Edinburgh.
- Ronchi, R., 2017: *Il canone minore. Verso una filosofia della natura*, Feltrinelli, Milano.
- Sarti, A., Citti, G., Piotrowski, D., 2022: *Differential Heterogenesis. Mutant Forms, Sensitive Bodies*, Springer Nature, Cham.
- Shaviro, S., 2009: *Without Criteria. Kant, Whitehead, Deleuze, and Aesthetics*, The MIT Press, London-Massachusetts.
- Simondon, G., 1982: *On Techno-Aesthetics*, "Par-rhesia" 14, pp. 1-8, 2012.
- Simondon, G., 2005: *Individuation in Light of Notions of Form and Information*, University of Minnesota Press, Minneapolis-London, 2020.
- Tavinor, G., 2021: *The Aesthetics of Virtual Reality*, Routledge, London.
- Žižek, S., 2004: *Organs Without Bodies. On Deleuze and Consequences*, Routledge, London-New York, 2012.