3 The Return of the One
Some Perspectives on the Analog and the Digital and their Uses and Abuses in Education

Tadeusz Rachwał

Abstract
The paper addresses theoretical and epistemological issues related to what has been termed `digital turn´ with an eye on the shift from the analog to the digital communication and the postulated division into two realities (actual and virtual). This division is approached in the text from the perspective of its broad consequences for education not only as regards the use of digital media in teaching and learning, but also as a new possibility of revising the relationship between man and technology and as a potentially effective means of rethinking the binary/dual cognitive ordering of various categorizations of the real, which ordering, especially as regards higher levels of education, need not be taken for granted. Bringing in the post-philosophical ideas of, among others, Francois Laruelle, the paper considers the coming of the dual to visibility through digitization as a possibility of critical bringing alternative ways of thinking to the educational agenda as a possible effect of the digitalization of the social/cultural milieu by way of what may be called a return of the One which encompasses all kinds of pluralities, and not only the ones decisionally enabled by binary oppositions. The digital turn, as I claim in the paper, may also be thought of in terms of an educational turn in which technology is not only used as tool, but which may also be constitutive of students' less externally oriented self-consciousness.

Numerous turns have been recognized in the contemporary disputes within the social sciences and humanities, especially in the last half of the 20th century. Mark Carrigan (2014) distinguishes 47 names of the species. The linguistic turn, for instance, the one which opens Carrigan's list, initiated the critique of foundationalism in philosophy and seems to be responsible for opening up ways of approaching reality as determined by language, for opening up vistas of textual worlds, thus linking the linguistic turn with what Clifford Geertz called the literary turn which also carries the name of textual turn and may well be connected with the discursive turn or conflated with the communicative turn. Most of the turns listed by Carrigan are strongly interrelated and Carrigan rightly finds their proliferation "a bit silly" (Carrigan, 2017, para. 3). However, what this proliferation clearly points to is a demand for new perspectives, for ways out of the furrows along which our thinking and inquiring has been for quite a long time guided. Most of those turns, moreover, are relevant for various aspects of education because, as related to changes of perspectives and positions of perception, they also, and inevitably so, involve the ways and methods of broadly understood learning and teaching.

The English word "turn" has a wide range of senses – from rotation, through revolution, to beginning of a period of time – the latter two senses being applicable to the idea of turns in culture. The linguistic turn, for instance, was revolutionary as regards the epistemological aspects of what could be considered as reality, simultaneously initiating a substantial number

of new, or at least newer, times of poststructuralism, postmodernism, postcolonialism and quite a few other "posts" which, in turn, changed a lot of teaching curricula and programs on all levels of education. In higher education, particularly as regards the humanities, these "posts" have been taught as discourses problematizing simple and given binary oppositions as responsible for the apotheoses of presence carried by what Jacques Derrida called the metaphysics of presence.

Within the turns preceding the digital turn, to whose conceptualization I will have to return shortly, technology in the common understanding of the word as machinery, tool or equipment did not play a significant role. Though the invention of the printing press was a revolutionary event in its time, the few hundred years of the existence of print in European culture interiorized writing as a natural means of communication which was almost glued to speech and which it in some sense quite unfaithfully copied. The visible linearity of writing has also, at least according to Marshall McLuhan, linearized our cognition and simultaneously increased the distance between man and man, the distance which he also perceived as the temporal delay of language communication in general. His only too well known recognition of medium as a message prompted him to think of a replacement of the linearity of print with fragmentation and flashbacks used in film and television and thus, as Philip B. Meggs (2011) phrases it, "explode[d] the tradition of continuity so precious to writers and editors" (Meggs, 2011, p. ix). McLuhan's *The Mechanical Bride*, originally published in 1951, was a praise of discontinuity. This kind of discontinuity was conceived of as a complex kind harmony which evades ideological and discursive imposition of faith carried in continuity which was treated an epitome of rationality. The metaphor for this new kind of harmony was "orchestration" which, as he wrote,

> permits discontinuity and endless variety without the universal imposition of anyone social or economic system. It is a conception inherent not only in symbolist art but in quantum and relativity physics. Unlike Newtonian physics, it can entertain a harmony that is not unilateral, monistic, or tyrannical. It is neither progressive nor reactionary but embraces all previous actualizations of human excellence while welcoming the new in a simultaneous present (McLuhan, 2011, p. 34).

What is thus brought as an alternative to the linearity of the visual manipulation is a blend of the auditory with certain aspects of modernist art which, quite interestingly in the context of the coming of the approaching digital era, is rooted in new physics, the science associated with, among others, the name of Alan Turing with whom McLuhan corresponded and which he clearly invoked "as support for his critique of visual space" (Cavell, 2015, p. 153). Though what is called the new media, or digital media, along with their potential to produce images, were as yet unknown to McLuhan, his readings of the orchestrating potential of both new physics and the symbolic art seems to be a gesture towards an alternative perception of the real, hidden beneath the visuality controlled by the rules of linear language. Perhaps like Turing, he realized that not everything is computable, that, as Cavell puts it, "reality is flow, or traffic. It is not countable, not separable: reality is analogue" (Cavell, 2015, p. 155). The Turing machine was not a mimetic project which simply duplicated reality. So too, for McLuhan, media did not transmit or transfer reality, but transformed it. What both McLuhan and Turing clearly saw was that our control of the images of reality we produce can only be partial and that "to attempt to provide rules of conduct to cover every eventuality […] appears to be impossible" (Turing, 1950, p 457, quoted in Cavell 2015, p. 158). Though we may speak nowadays of something which may be called a "digital turn," we should remember that the opportunities offered by this turn should be looked at, and used, with some modesty, that the

vistas opened by it do not prove that we have become able to regulate the world along with its irregularities. Such an ambition, as it seems, underlies Benoit Mandelbrot's (1977) dream of fractal mimicking "reality by purely geometric means" (Mandelbrot 1977, p. 84) with which he, literally, "attacks irregularity" (Mandelbrot, 1977, p. 12).

The subtitle of Wim Westra's 2012 book devoted to the digital turn (*The Digital Turn. How the Internet Transforms Our Existence*), and, as he writes at its very beginning, to "the progressive virtualisation of the world" (Westra 2012, p. 6), carries an in fact ontological claim of some progressive transformation of our existence. Such a progressive change carries with it the possibility of ending the process of transformation, of giving it a finish, perhaps in Jean-Luc Nancy's (2000) understanding of the teleology of the promise of the end and completion:

> The finish consists in executing (ex-sequor means to follow through to the end), in carrying out something to the limit of its own logic and its own good, that is, to the extremity of its own Being. In our thinking, Being in general, or rather Being proper or plainly Being, in each of its singular effectuations or existences, has it substance, end, and truth in the finish of its Being. (Nancy, 2000, p. 118, emphasis in original)

In the case of virtualization, an implicit promise of the final transformation, of virtual reality fully replacing our imperfect rootedness in the world of our bodies and minds, goes hand in hand with the faith in boundless possibilities of technological advancements. Westra refers to such a possibility in terms of immigration from the real world:

> We disconnect the mind from the body and thereby transfer ourselves from the real world to the simulation. We are real-world immigrants in a simulated realm, where we can interact with other immigrants or with artificial characters without noticing any differences. This would be the ultimate virtual reality because the body is frozen while the brain, which would still be processing sensory data and controlling motor actions, is still active. We might want to keep our brain in a vessel and renounce our brainless body. (Westra, 2012, p. 125)

This idea of immigration from the real world rhetorically marks this world as in some sense inhospitable, one which we leave in order to find an asylum in a better one. What is thus left behind, or at least one aspect of what is left, is the analogue world as opposed to the digital world brought in by the new media. The old analogue world is, again rhetorically, seen as less perfect, as an ambiguous and noisy world which the digital world as it were cleans up of all the unnecessary disturbances. What the digital turn necessarily involves is "digitization," the technical process which converts streams "of analog information into digital bits of 1s and 0s with discrete and discontinuous values" (Kreiss & Brennen, 2014). Daniel Kreiss and Scott Brennen briefly outline the effects of digitization referring to a number of texts devoted to the problem:

> As communication scholar Tony Feldman (1997: 2) argues, unlike analogue data with "continuously varying values, digital information is based on just two distinct states. In the digital world, things are there or not there, 'on' or 'off'. There are no in-betweens." That digital bits have only two possible values leaves many to argue that, in the words of Robert Pepperell (2003, 126), "digital information is discrete and 'clean', whilst analogue information is continuous and 'noisy'." Robinson (2008, 21) defines analog as: "smoothly varying, of a piece with the apparent seamless and inviolable veracity of space and time; like space and time admitting infinite subdivision, and by association with them connoting something authentic and natural, against the artificial, arbitrarily truncated precision of the digital (e.g., vinyl records vs. CDs). (Kreiss & Brennen, 2014, para. 4)

The value judgements of the digital can surely be called positive. The digital world, even in the short quotation above, guarantees the certainty of the presence of things as they are, with no undecidable in-betweens. The presence is clean, its transmission undisturbed, its divisions are

finite and precise. Kreis and Brennen rightly notice that digitization carries a symbolic claim to immateriality, to the forgetfulness of the material systems on which, as they put it, the information is "housed" (Kreiss & Brennen, 2014, para. 7). This, in fact metaphysical, dimension of digitization overshadows the materiality of "housing," something which Jean Baudrillard quite long ago expressed in terms of fear. "The compact disc," he wrote.

> It doesn't wear out, even if you use it. Terrifying, this. It's as though you'd never used it. It's as though you didn't exist. So it's as though you didn't exist. If things don't get old any more, then that's because it's you who are dead. (Baudrillard, 1994, p. 101)

The nostalgia for the analog, expressed in the rebirth of vinyl records for example, seems to be lying in the feeling of in inauthenticity of the digital world also mentioned by Kreis and Brennen in the above quotation. There seems to be no question that what is brought by the new media is, at least symbolically posthuman, a construction of a seemingly absolute space uprooted from the homeliness of "housing," even the rootedness in the brain. The subtitle of Robert Pepperell's (2003) book on posthuman condition (The Posthuman Condition. Consciousness beyond the brain) quite clearly points to the possibility of placing consciousness outside the body. Such a possibility, however illusory, is carried by the potentialities of the digital turn as what it also enables is a presence without a body. As "virtual representations are combined with digital communications," writes Pepperel,

> we start to see 'meetings' of thousands of people who are physically remote, and the building up of on-line communities distributed across the world. It seems that in this electronic world one's physical attributes will be less significant that one's 'virtual presence' or 'telepresence' (Pepperel, 2003, p. 5).

This withdrawal of the human away from the human is paradoxical, as though we can easily find virtually present persons or objects, we do not really know where they are. It is difficult for us, as Pepperel puts it, "to determine where a person 'is'" (Pepperel, 2003, p. 5). The inverted commas around the 'is' are quite telling here, as what is really at stake is the possibility of nonexistence which terrifies, as we have seen, Jean Baudrillard. This nonexistence is, paradoxically, communicated by the digital existence, pure, clear and unambiguous which in some sense is a fulfillment of the philosophical dream of presence, of a being-in-itself, a being devoid of any contextual dependencies and rootedness.

   Martin Heidegger did see technology as indispensable, and strongly associated the technology of building with dwelling and thinking, the activities which he, etymologically linked with being and with autochthonic belonging to the soil. He quite explicitly wrote that ''the arrangements, devices, and machinery of technology are to a greater or lesser extent *indispensable* […] We depend on technical devices; they even challenge us to ever greater advances'' (Heidegger, 1959, p. 55, quoted after Glendinning, 2017, p. 2). Long before the digital turn, he warned against the dangers of uprooting, against the loss of "rootedness, the accelerating deracination of our lives from any 'patch of home ground', an uprooting from any definite 'here' by new forms of social technology" (Glendinning, 2017, p. 2). Heidegger's autochthonic rootedness and native belonging to the home ground seems to be irrevocably gone, and what Simon Glendinning (2017) finds to be a crucial educational issue for "digital natives" is a "new rootedness" which will replace the old rootedness represented in "exclusively 'blood and soil' terms" (Glendinning, 2017, p. 3). What he, against Heidegger, affirms is "another nativisation – the being-at-home of a more cosmopolitan plant – that belongs, as Nietzsche stressed, to a human being who has achieved ''independence of any definite milieu" (Glendinning, 2017, p. 3, quotation from Nietzsche, 1973, p. 153).

The idea of independence from definite milieu slightly complicates the understanding of the notions of digital immigration and digital nativity to which I have already briefly alluded. For Marc Prensky (2001), who wrote his well-known essay "Digital Natives and Digital Immigrants" (where the two now popular phrases were used for the first time) in 2001, the metaphor of immigration was used with reference to those of us who "were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology" (Prensky, 2001, p. 1), with Prensky positing himself as one belonging to that group. Importantly for the subject of this volume, he used the term with reference to teachers for whom the generation of students born after the arrival and rapid dissemination of digital technology in the last decades of the 20th century constituted a generation of "digital natives" (Prensky, 2001, p. 1). The phrase "digital natives" designates here those students who have spent their lives surrounded by various "toys and tools of the digital age," among "[c]omputer games, email, the Internet, cell phones and instant messaging" Prensky, 2001, p. 1) which became "integral parts of their lives" (ibid.). The use of these toys and tools, Prensky claimed, may have changed their brains (Prensky, 2001, p. 3), perhaps in the way the use of print has changed the brains of the previous generation of the Guttenberg Galaxy through the linearization of the processes of the cognition.

What is at stake seems to be something more than a generation gap which is, putting it bluntly, only a temporal and passing phenomenon. Prensky's use of the anthropological metaphor of tribe along with the in fact colonial metaphor of immigration brings in the questions of space and its conquest, though in a slightly paradoxical way. Seen as a tribe, as an autochthonic society, the digital generation is simultaneously posited as living in another space, occupying it, though as it were nomadically, in opposition to the sedentary tradition of life to which the old generation is accustomed. Moreover, the digital tribe produces this living space, crates it by various means and `toys´ seemingly independently of the space already occupied by the analogically mediated world of the old generation. Institutionally, however, it is the older generation which organizes the world, education being one of the powers which remains under their control. From that perspective, the `autochthonous´ education of the digital tribe is frequently seen as destructive of the old world and is comparable to a coming of barbarians into the walls of the city for whose culture and traditions they do not have any respect. So what should happen in this predicament, asks Prensky:

> Should the Digital Native students learn the old ways, or should their Digital Immigrant educators learn the new? Unfortunately, no matter how much the Immigrants may wish it, it is highly unlikely the Digital Natives will go backwards. In the first place, it may be impossible – their brains may already be different. It also flies in the face of everything we know about cultural migration. Kids born into any new culture learn the new language easily, and forcefully resist using the old. Smart adult immigrants accept that they don"t know about their new world and take advantage of their kids to help them learn and integrate. Not-so-smart (or not-so-flexible) immigrants spend most of their time grousing about how good things were in the "old country. (Prensky, 2001, p. 3)

However, the immigrants are also natives, though natives to what Prensky calls "the old country" within whose territory the digital natives function building their new virtual spaces. What frequently goes unnoticed is that the digital world is not exactly new, that it is a fulfillment of various philosophical dreams of the old world whose analogue means never managed to fulfil. One of those dreams was a perfect language, one which is devoid of contradictions, ambiguities, perhaps also of the haziness of meaning which Michael Taussig called, in the context of colonialism, "epistemic murk" (Taussig, 1987, p. 132). The murkiness

of natural language, its systematic refusal to be systematically clarified has turned out impossible to be overcome by philosophers. Thus philosophy, as Pepperell notices, had to idealize it through making it somehow quantifiable and thus available to mathematical logic:

> Linguists, and philosophers of language, tend to idealise language in order to make it quantifiable. But real language can be likened to a turbulent fluid, the catastrophic ruptures between continuous flows of words, the flips and reversals of meaning, are instantaneous and unpredictable; while there is much stability the fluid is never the same twice, it has recognisable form but is not fixed. Seen in this way, no element of language can be autonomous, isolated or reliable, just as a turbulent fluid contains no autonomous, fixed components. (Pepperell, 2003, p. 88)

The 0-1 language of the digital world clears up the murkiness of the uncertain along with the ambiguities and obscurities of natural language, and though it should be attractive for the digital immigrants, they, for some reason, want to keep the "old country" of the analog alive and refuse to see digitization as an offer of an absolutely new world. For what is involved in digitization is also digitalization, the social effects of "digitization" and the "macro-level changes in social structure and practice" brought in by digital media (Kreiss & Brennen, 2014, para. 16). It seems that the very presence of the digital media within various social spaces and institutions digitalizes them in the manner. The "digitization/digitalization" distinction seems to be important in thinking about the digital turn in education, as what it brings to the fore is the fact that the worlds of the digital tribe and of the digital immigrants are strongly intermingled, and that their simple separation is highly reductive. One important aspect of our time seems to be the hybrydization of the digitized and the analog worlds in which digitalization may well be seen as constructive of ourselves. Donna Haraway (1991) rightly sees in her "Cyborg Manifesto" all of us as cyborgs. "By the late twentieth century," she writes,

> our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality (Haraway, 1991, p. 150).

The ascription of having become digitalized only to the digital tribe is thus a clearly reductive gesture in which resistance to technology is seen as a virtue of remaining closer to the more authentic and autonomous world of nature. This latter world, however, has been constructed in the Western culture as an image of technology's resource bound to be transformed into the technologically controlled space. The dualisms of nature and culture, of body and mind, of maker and made have been challenged by high-tech culture in "intriguing ways," and it is now not clear, according to Haraway,

> who makes and who is made in the relation between human and machine. It is not clear what is mind and what body in machines that resolve into coding practices. […] There is no fundamental, ontological separation in our formal knowledge of machine and organism, of technical and organic (Haraway, 1991, p. 177f.).

Though we still, at least discursively, use the dualisms and separations, their chimeric nature consists in the fact that technology seems to be perceived as a means to their eventual overcoming, of translating and transforming the natural into technological, of perfecting the world's analogous nature into digital virtuality. This, as we have seen, lies at heart of the fractal dream of geometrization of the disorderly non-geometrical, but also in the rhetoric of the possibility of immigration to another world which goes hand in hand with the idea of autochthonic belonging to it, projected upon the already briefly discussed digital tribe. The existence of the tribe is a myth which in various writings on education depicts children as fully

immersed in the digital world, as fully conquered and "cyborgized" beings who did not simply lose their contact with another reality, but in fact never had it. Lydia Plowman and Joanna McPake demythologize Prensky's category of "digital tribe" (Plowman & Pike, 2013, p. 28) along with other mythologized visions of wrong uses of media by children, such as the alleged obstruction of social interaction with the real world or their almost absolute immersion in computer playing games or surfing the web.

The rhetorical image of being immersed strongly connotes being lost, the metaphor already present in the idea of getting lost in the postmodern world of the funhouse explored by John Barth (already in 1968) through the figure of Ambrose. Ambrose, immersed in the funhouse world without exit, died telling stories to himself. His skeleton was found much later in one of its labyrinthine corridors, and was mistaken "to be a part of the entertainment" (Barth, 1968, p. 99). If the rhetoric of tribalism involves only the participants in virtuality as a kind of a different community, the rhetoric of immersion translates the whole milieu into a virtual copy of the real within which it disappears from the analog world and becomes, as it were, another. Moreover, the figure of digital tribe is most frequently used with reference to children in whom the propensity to play, aided with computer games, threatens with an irreversible departure from the real. However, the figure of immersion is also used in more `serious´ contexts of academic research and education where virtuality is seen as equivalent to the real, though one more easily made available to observation. This is the case of, for example, the idea of Immersive Virtual Environment technology used in experimental research in psychology where the virtual is described as "the ultimate representational system" which allows the observer "to interact 'naturally' with objects and other individuals within a simulated environment or 'world,' an experience indistinguishable from 'normal reality'" (Loomis et al., 1999, p. 557). What is thus seen as a potential of the digital graphic technologies is the blurring of "the distinction between reality and its representation" (ibid.), a creation of a representation which is in fact the same as the represented, a representation without a difference. This is, of course, yet another rendition of the already mentioned dream of an ideal philosophical language, the odea itself rooted in what Jacques Derrida called the metaphysics of presence, the metaphysics for which the idea of truth was itself the domain of virtuality, though not of a digital kind. Though the representation then available was only analog rather than digital, the idea of the perfection of the represented authentic was a figure of a virtual reality for which writing and, more generally, language were secondary and supplementary proofs of something `existing in the mind´, the last phrase being in fact a dictionary definition of the word `virtual´. Philosophy is rooted in this denial of the real as always split, always divided, always dual – the mode of existence exactly duplicated by the 0-1 divisions of the digital reality. François Laruelle (2010) in his critique of the dual claims that "[p]hilosophy cannot begin except by that originary denial of the Real by representation, it closes its eyes and constructs its thought in an ideal blinding light" (Laruelle, 2010, p. 80). Philosophy is blind to non-duality, reduces non-dualities to an absence achieved at the costs of enforcing binary oppositions as the only conceivable structuring of reality. Laruelle's proposition of `non-philosophy´ which, unlike traditional philosophy, is not blind to the decisional dual split, seems to be relevant in thinking about the promises of the digital turn which are, in fact, not quite new. What seems to be the crucial problem of traditional philosophies is an inevitably two-sided unilaterality, and what Laruelle proposes is what he calls "unilateral duality," (Laruelle, 2010, p. 14) a kind of duality which stands beyond simple relation and dependence on two parts. In *The Future Christ,* for instance, Laruelle rethinks the idea of Christ's second coming in

terms of its "*being split in two*" (Laruelle, 2010, p. 122) , the division which obstructs looking at the reality of the event in terms of the indivisible identity carried by philosophical doubles. Laruelle's unilateral doubles are not quite double because their unilaterality is not decided by exclusion. The philosophical unilaterality is, as Laruelle phrases it, "bad, misplaced towards inadequate spot" (Laruelle, 2010, p. 134), while the proposed unilateral duality is non-exclusive mix which avoids opposition. The split existence of Christ's second coming which he reads hand in hand with the idea of heretical serves as an exemplary re-reading of the dual and its philosophical uses and abuses. Though the concept of `the digital´ is not the main concern of Laruelle's works, Alexander Galloway's (2014) book on Laruelle and the digital offers, though somehow negatively, invaluable insights into the role of the concept in the ways of the contemporary world.

Galloway admits that Laruelle hardly ever writes about the digital, yet he sees "evidence of the topic on almost every page" (Galloway, 2014, p. xii). This invisible presence, the invisible traces of the digital, are the tropes leading him not to "forge a new digital Laruelle, but on the contrary to show how, even in this day and age, Laruelle remains a profoundly non-digital thinker, perhaps the only nondigital thinker we have" (Galloway, 2014, p. xii). I have decided to bring in both thinkers to this text on digital turn not in order to condemn the digital and re-embrace the old, analog world along with the old vinyl albums sitting on my shelf, but rather in order to question the illusion of the absolute newness of the digital. Rephrasing Galloway, one may well say that reading various texts written in praise of the digital, one always sees evidence of the topic of the analog whose traces as it were speak through the digitally purified realities. What is more, the digital also speaks through the analog, splits it at the cost of the loss of its continuity and oneness, divides into various kinds of signifiers and signifieds whose functioning is based on difference, or, as de Saussure had it, on differences without positive terms. Both Laruelle and Galloway see this as cataclysmic for `the one´, for the immanent in which the distinction between the one and the multiple is indistinguishable – a world in which there is "only the one and its various identities" (Galloway, 2014, p. 47), writes Galloway, and then quotes Laruelle from "L'ordinateurtranscendantal: Une utopie non-philosophique":

> In immanence, one no longer distinguishes between the One and the Multiple, there is no longer anything but n = 1, and the Multiple-without-All. No manifold watched over by a horizon, in flight or in progress: everywhere a true chaos of floating or inconsistent determinations . . . between Identity and Multiplicity, no synthesis by a third term. (Laruelle, 2005, p. 13 quoted in Galloway, 2014, p. 47)

Without engaging into the possible connections of this new search for oneness with Jean-Luc Nancy's idea of spacing or Quentin Meillasoux's anti-correlationism, Galloway seems to be pursuing an idea of the One prompted by digitization seen as the perfect doubling of the analog, as a production of a world apart which in fact reveals, or unveils, an almost absolute domination of the dual in which the one cannot be spaced either analogically or digitally. Hence what he calls "the cataclysm of the one" about which he writes invoking a teratology of sorts and reads it as both glorious and monstrous:

> Deleuze was on to something when he remarked that "thought 'makes' difference, but difference is monstrous.' … Still, he didn't go quite far enough. Digitization is monstrous, but it does not hold a candle to the glorious, monstrous cataclysm of the one." (Galloway, 2014, p. 22, quotation from Deleuze, 1994, p. 37)

Laruealle's/Galloway's `one´ is a sphere which does not evade an involvement in language, though it transcends the dualities governing both the analog and the digital constructions of the real. The idea of immersion in one or the other is related to the absolute division into

inside and the outside, and thus we can speak `of´ the inside only from the perspective of its relational opposition. The use of the preposition `of´ is significant here, and Laruelle is highly sensitive as regards their use. Laruelle, Galloway notices,

> generally avoids any linkages that indicate belonging, which is to say a relation that determines the object. So he steers clear of prepositions like of, within, from, against, for, and with. Nevertheless some prepositions, contrary to their grammatical role, tend to obscure the object's determination in favor of a linkage of nonrelation. […] Prepositions useful to embody such structures include in, as, by, according to, alongside, and without (Galloway, 2014, p. 27).

What links these seemingly highly abstract conjectures with the digital turn and its possible bearing on education is that it is exactly the coming of the digital which enables us to encompass the digital **by** the analogue not as a separate outsidedness, but as a possibility of repositioning our visions of the world through a change in its prepositional structuring. One of the effects of treating the digital as a better or clearer version **of** the analog, and of thus making it a function of the linguistic genitive case is the frequent prosthetic rhetoric which it brings about. Wim Westra devotes a whole chapter of his Digital Turn to media as cognitive prostheses which he compares to various prostheses of the body. Though it is quite true that artificial teeth, for instance, "replace our affected originals and allow us to bite into any firm, leathery, hot, or cold substance without problems" (Westra, 2012, p. 64), in case of using the prosthetic argument with reference to our cognition implicitly debilitates this human ability and renders it as either missing or, at least, too weak and insufficient. The prosthetic reconstruction of corporeal integrity projected upon the cognitive processes is misleading because what it also carries with it is the possibility of reducing cognition to a pure potential of sorts "a sustained individual capability that reflects a potential rather than the actual performance" (Westra, 2012, p. 65). However, the cognitive performance, very much unlike the bodily performance, is inevitably technological and demands exteriorization and in fact is exteriorization. As the process of exteriorization, Stiegler claims, "technics is the pursuit of life by means other than life" (Stiegler, 1998, p. 17). One crucial technology of this exteriorization is writing which can hardly be thought about in prosthetic terms otherwise than as prosthesis of mind and memory, though one which liberates itself from the instinctive or genetic kind of writing which enables it. Stiegler writes about this paradoxical liberation in terms of `rupture´, the notion which, in the context of prostheticity, brings to mind not only a division into two and a breach in harmonious relationship, but also an image of severing or amputation:

> It is by freeing itself from genetic inscription that memory at once pursues the process of liberation and inscribes thereupon the mark of a rupture – on stones, walls, books, machines, madeleines, and all forms of supports, from the tattooed body itself to instrumentalized genetic memories, dis-organized, made inert as it were, then reorganized, manipulated, stored, rationalized, and exploited by the life industries named "biotechnologies", including the holographic memories that the information-processing industry is planning. An inscription of memory through rupture, the inscription of the rupture in memory. (Stiegler, 1998, p. 169f.)

What is also inscribed in this kind of exteriorization are doubling and repetition which Stiegler reads in his book as immediately connoting the question of tekhne, but which also conceals a repetition of a certain fault of forgetfulness in the duplicity of epimêtheia and promêtheia (*cf.* Stiegler, 1998, p. 217). His bringing in of the mythical figure of Prometheus to make up for the forgetfulness of his brother Epimetheus in various discourses on prostheticity and memory (Heidegger, Husserl, Leroi-Gourhan, Derrida) may be quite revealing in the light of thinking about the loss of `the one´ in dualization and digitalization and its prosthetic replacement which, in the case of the idea of memory for example, may be perceived as a phantom limb

whose felt presence is reduced to absence. Stiegler's idea of technics as the pursuit of life by means other than life strongly links prostheticity with memory and history by which we are defined as living:

> The evolution of the "prosthesis," not itself living, by which the human is nonetheless defined as a living being, constitutes the reality of the human's evolution, as if, with it, the history of life were to continue by means other than life: this is the paradox of a living being characterized in its forms of life by the nonliving – or by the traces that its life leaves in the nonliving. (Stiegler, 1998, p. 50)

What is peculiar in this observation is the idea of traces of life carried within the nonliving, left within the prosthesis which thus may function away and independently from what it seems to have replaced or enhanced. Though Stiegler does not refer to the phenomenon of phantom limb, the frequently painful sensation of a missing bodily part, the trace or the reminder of the living within the prosthesis signals that the already mentioned freeing of memory from its genetic inscription is never complete. This incompletion also disables the possibility of a complete technological copying, and the mark of rupture is simultaneously a mark of a trace of the one, a mix of the analog and the digital which takes place between them. The one is thus brought back to the seemingly dual world not as a metaphysical concept of finality, but as a spectral, or phantomic, kind of factuality whose spectrality is irreducible. It is, as it seems, the envisioning of a purely digital world without specters which has made the technological prosthesis into a metaphysical perfection and ideality, an ideality which will eventually replace not only our limbs, but also the phantom limbs of which we are, however painfully, reminded.

Such a possibility has been quite recently opened up by a proposition to `exercise´ one's missing limb in a virtual reality scenario by way of engaging `amputees´ in computer games with an on-screen arm. The amputees involved in the game "reported relief from phantom pain" (Chang, 2016, para. 1), which relief has been described as "a novel solution to this persistent problem" (ibid.). This example from *Digital Trends* is an interesting case of the rhetoric of prosthecity in which it is in fact a digital prosthesis which replaces an analogically constructed one thus literally freeing the genetic memory through as it were double exteriorization. The promised full immersion in the digital as a solution to bodily impediments may well be extended to cognitive processes crucial in education and, I think, even more relevant in higher education which, ideally, should be as it were conscious of itself in which the student is the agent of the learning processes. And yet the capacity of digital memory is frequently as a kind of `cognitive offloading´ which offers a promise of removing memory to the outside and giving the activity of remembering to the hands of `agents outside the head´. "Our increasing reliance in the Internet," we read in a text on this kind of offloading,

> and the ease of access to the vast resource available online is affecting our thought processes for problem solving, recall and learning. In a new article published in the journal Memory, researchers at the University of California, Santa Cruz and University of Illinois, Urbana Champaign have found that 'cognitive offloading', or the tendency to rely on things like the Internet as an aide-mémoire, increases after each use. We might think that memory is something that happens in the head but increasingly it is becoming something that happens with the help of agents outside the head (ScienceDaily 2016, para. 1).

We do more and more often reach to the screen rather than to paper, and yet this does not mean that we have to, increasingly, offload one world for the sake of the speedy, reliable and perhaps non-precarious space from whose prosthetic perspective we gradually, after each use, forget our own agency. What has been called the digital turn may also become a crucial educational turn, one through which we can even more clearly see ourselves as agents of both the analog and the digital by way of realizing the aporetic character of the turn, of realizing

the aporia which has always already been there, without falling into its trap of the division into before and after. For the movement of the digital turn illustrates the paradox which was not easily discernible within the analog world, the foundational myth of the development of knowledge in which, as Stiegler phrases it,

> there is never anything, at the origin, but the fall outside it. This aporetic moment is one in which the aporia always ends up hardening into a mythology opposing two moments: those of purity and corruption, of before and after—the point separating them always already diluted. This is an excellent archetype of the discourse of philosophy on technics, relating through a fiction, if not by a myth, how the man of pure nature is replaced by the man of the fall, of technics and of society (Stiegler, 1998, p. 101).

The prosthetic rhetoric of the digital turn complicates this pattern by way of positing the pure as purer and better than the originary, thus in fact reversing the archetype and reading technology as a return of a bettered or improved lost object, be it a lost limb, a memory, or, for that matter, paper whose prosthesis is screen. What seems to be remaining of paper, however, is its spectral return to variously remediated reality, also as regards the language used in relation to the technologically present things. A webpage, for example, are still page, and Jacques Derrida saw it as "primarily a figure of paper (of the book or codex)," (Derrida, 2005, p. 46) noticing in *Paper Machine* that

> the page nowadays continues, in many ways, and not only metonymically, to govern a large number of surfaces of inscription, even where the body of paper is no longer there in person, so to speak, thus continuing to haunt the computer screen and all internet navigations in voyages of all kinds (Derrida, 2005, p. 46).

This haunting presence of paper on the computer screen may, of course, be ignored, and we may believe with Wim Westra that "media turn us into a different type of creatures" (Westra, 2012, p. 64) and to thus endow media with the agency of making us anew. Or, and this seems to be crucial for the educational agenda, we may notice this spectrality and see in it a reminder of Laruelle's immanence of the One of the non-philosophical subject for whom the technological performance is only an instance of our radical performativity in which, and through which, we perform the Real rather than represent it (*cf*. Srnicek, 2011, p. 169). Though the venture of non-philosophical performativity is not, in itself, an educational project, in the context of the performative possibilities offered by the digital turn it might be well thought of in terms of the formulation, or rather re-formulation, of the task(s) of knowledge, of the `what´ of what we know. The digital (qua virtual) problematization of the real as the immutable foundation of everything, as the foundation misleadingly posited in its conceptualizations as teleological task by the "philosophies which aim at the Real" (Srnicek, 2011, p. 164), might be also an invitation to the non-philosophical which, as Nick Srnicek phrases it, "provides the most intriguing conceptual tools to begin thinking 'in accordance with' the Real (ibid). This accord, or accordance, may be called a return of the One, a return of an insecure non-foundation in which, with which, and not on which, we are all, however virtually, becoming.

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