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The Otherness of Cyberspace, Virtual Reality and Hypertext[1]

Tuğrul İlter
Eastern Mediterranean University,
North Cyprus

1. Introduction

The techno-cultural developments that are globally re-weaving us within satellite communication networks, the Internet, and the world wide web have also given us cyberspace, virtual reality, and hyper-text as new fabrics of culture-space-reality interaction. Coupled with an exponential growth in technological advances has been a similar mushrooming of cultural fantasies about altogether different futures.

The adjectives cyber, virtual, and hyper are meant to serve as the markers of this altogether different future, its different and other space/reality/textile. Even a traditional, calendarical distinction like a "new" millennium is infused with a magical substance by such references. We were excited about, and also scared from, the new millennium because it was supposed to mark the passage from the repetitive and familiar traditions and constraints or securities of the "old" to the "new" of this altogether different future. The reactions engendered by this excitement are Janus-faced, or, for those who are more familiar with the Batman mythology, two-faced, like the character played by Tommy Lee Jones who is called, simply, Two-Face, in the movie *Batman Forever*. Like another famous literary character, Robert Louis Stevenson's Dr. Jeykll and Mr. Hyde, Two-Face has both an evil and a good "face," and decides to do good or bad based upon the result of a coin flip. Similarly, our reactions to these developments are two-faced and contradictory in that we are both excited and scared, we lay out the welcome mat and start building and reinforcing the retaining wall, we feel both attracted and repulsed towards these developments. In the vast orientalist literature, for instance, the Orient is depicted both as an uncivilized, backward place ruled by despotic rulers, lacking freedom, and whose characteristics are the very opposite of what "we" in the West value and uphold, and yet also as an exotic place of attraction, attractive in its exoticism, both sexualized and found sexually attractive, where one can indulge beyond the reach of the restraints back "home" (See Fig. 1).

There is something of the unknown about them which triggers these reactions. Like the *terra incognita* of the Europeans during the "Age of Conquest and Discovery," cyberspace, virtual reality, and hypertext represent, in one of their guises, the freedom to break from the restraints of "our" known world, the source of much excitement. I find it significant that a very important US "civil liberties group defending [our] rights in the digital world" is called the "Electronic Frontier Foundation." The reference here is, of course, to the rapidly expanding

[1] A shorter, earlier version of this chapter was published in *Open House International* V32, N1, 83-88, 0168-2601.

frontier separating the young United States from "the Wild West," which was indeed a source of excitement, and represented boundless freedom to those who were part of this Westward expansion. By partaking in this boundless freedom, they were doing good, naturally, or so they thought. But to the natives, this exercise of freedom was sheer hell, wiping their land, their culture, and their freedom to write their own destiny as peoples with distinct identities—and not just as the exotic backdrop of Wild West shows, and later, movies—out of existence.

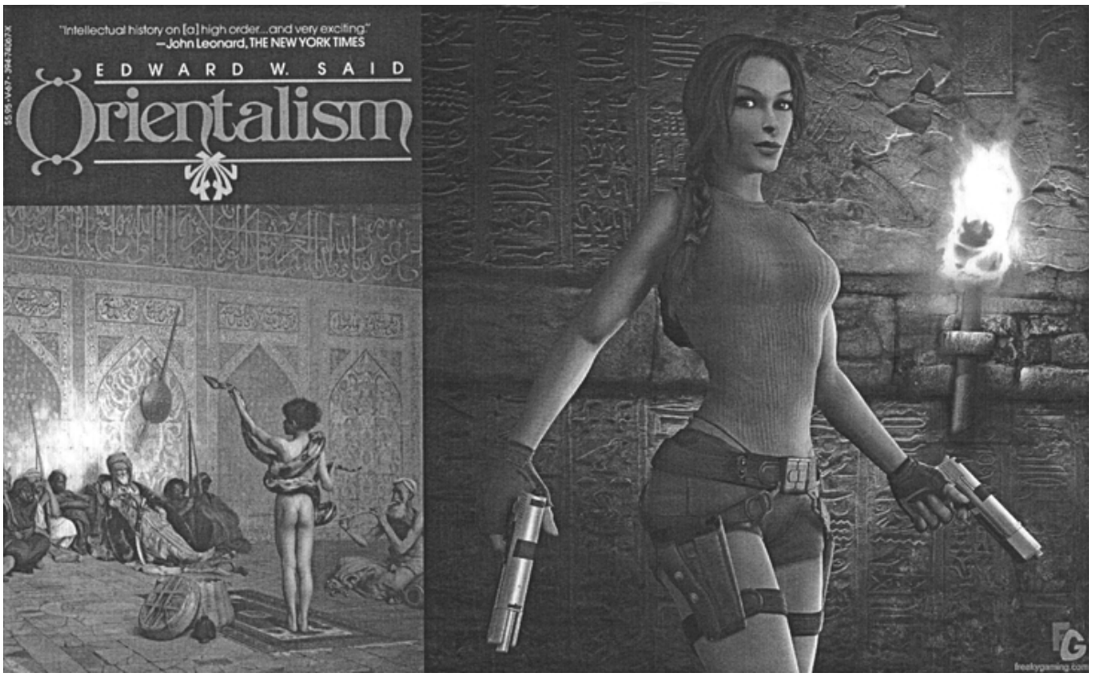


Fig. 1. The "Orient"—old and new—as an exotic place of attraction, both sexualized and and found sexually attractive.

Just as the Age of Conquest and Discovery had ushered in the age of colonialism and (capitalist) imperialism, bringing told and untold misery, including slavery, to many peoples around the world who were deemed inferior, less than human, and uncivilized with the help of highly cultivated Eurocentric lenses, this "old" story was repeated in the expansion of the "new" frontier in the US. And in these cases, we don't even have to wait for the delay of a coin-flip, or the nightfall after the day ends, for the evil "face" to show up. The "good" characters can, it seems, do evil in the very act of doing good. The evil other is not only there lurking in the shadows waiting for his/her turn after the good one, but is there at the same time. The self is thus divided both spatially and temporally, and cannot become self-identical in any fully final sense. So maybe, what we are led to see as our opposite other over there, may turn out to be mixed up with what is in us here, with what is familiar. We may recall, in this regard, a slogan from the anti-Vietnam war struggles in the US, which said, "we have seen the enemy, and it is us." In fact, is not "the external other over there" one such familiar story, but a story with a strange unfamiliarity, which we cannot quite place, within it? In the early European maps of the world, drawn during the age of discovery, their *terra incognita*, the undiscovered and unknown land, was depicted as populated by supposedly unfamiliar monster creatures, such as dragons, feeding into the peoples' fear of the unknown. However, these creatures drawn at the edges of their known world on those maps were not creatures

emanating from the unknown, but they were, rather, the fantastic creations of the Europeans themselves. Thus, their very recognizability as monsters made these creatures familiar and homely. As the critique of orientalism made abundantly clear (Said, 1979), these fantastic European creations were subsequently projected onto the "lands of discovery."

In this chapter, taking the above observations as my lead, I engage with the question of the otherness of cyberspace, virtual reality, and hypertext, and how they are distinguished as "new" and altogether different. I pose the question: Are cyberspace/virtual reality/hypertext the opposite others of space/reality/text or are they, rather, the latter's iterable and itered rearticulation and retranscription?

2. The Modernist othering of cyberspace, virtual reality and hypertext

It is the novelty of cyberspace, virtual reality, and hypertext that feeds both the idolatry and the demonization or the excitement and the fear we feel towards them. They are new and modern (some would say postmodern) creations. Modern, as it is commonly construed, is a culturally biased, more specifically Euro- or West-centric, teleological concept, representing the telos of History understood as an unstoppable progressive movement from the old of the past to the new of the now, as commonly depicted in the replacement of the old year by the new on the eve of the new year. For the new to be new, it must be radically different from the old, giving it the aura of the unknown, and it is this aspect that feeds all the cultural fantasies, both anticipatory and fearful, about cyberspace, virtual reality, and hypertext.

We could begin by noting how this "new" future is distinguished by familiar binary oppositions like future vs. past and modern vs. traditional. They rely on the notion of a new that is uncontaminated by the old. Indeed, that is what the designation "modern" stands for. It is the modernist imaginary of a unilinear time, animated by a Eurocentric telos, that defines our opposites of the (advanced) modern and the (backward) traditional. Jacques Derrida (1982) refers to this mode of thought as a logocentric metaphysics of presence, which, in trying to banish its own difference or otherness inside, projects it onto a binary oppositional outside; he further specifies it as „Western" metaphysics, referring to „the activation of what is called Western thought, the thought whose destiny is to extend its domains while the boundaries of the West are drawn back" (1978, p.4), and as „the white mythology which reassembles and reflects the culture of the West" (1982, p. 213). Hence, its structure and operations are familiar. As Edward Said (1979) and others after him have shown, positioning oneself as an Oriental does not overcome the sovereignty of this Western metaphysics, since the founding reference of the Orient, the reference by which it is identified, *is* the Occident. Its binary oppositional makeup means that it cannot be opposed by a binary opposition, which rather sustains it. Derrida poses the problem of the ethnocentrism of this „Western metaphysics" from some of his earliest writings (1978, pp. 278-293, 1976 p. 4, 101-140). Much of postcolonial theory is informed by this critique.

As the modernist imaginary led to and was shaped historically by a series of revolutions in Europe, the notion of "revolution" is used as the exemplary marker of a clean break from the pre-modern past. Thus, the French Revolution of 1789 was supposed to mark a clean break with the absolutism of the *Anciént Regime*; similarly, the Turkish Republic, representing such a revolutionary break, was supposed to have nothing to do with its less-than-civilized Ottoman past; we even talked and wrote about "epistemological breaks" that marked the leaving behind of old problematics or paradigms. Louis Althusser and Etienne Balibar (1970), for instance, argue that Karl Marx's thought is fundamentally incompatible with its

antecedents because of its ground-breaking epistemology. Likewise, Thomas Kuhn (1970) theorizes scientific advancement not in terms of a cumulative acquisition of knowledge, but in terms of intellectually violent revolutions in which one paradigm, a conceptual worldview, is left behind and is replaced by another. The primary reason for these intellectual revolutions is that paradigms are conceptualized as incompatible, or rather as „incommensurable“ with each other.

In the orientalist mapping of the modernist imaginary, the Occident and the Orient were likewise defined in terms of an (external) ontological difference: as Rudyard Kipling put it in British colonial India, "O, East is East, and West is West, and never the twain shall meet" (quoted in Harlow & Carter, 1999, p. 207). Yet, this is precisely what is problematized in recent postcolonial and postmodern theory. Gayatri Spivak, for example, reminds us that such a categorical distinction ignores or tries to forget their inter-implicational existence throughout the past and ongoing history of imperialism, colonialism and neo-colonialism. Emphasizing the “international division of labor,” Spivak (1988) draws our attention to the epistemic violence involved in the constitution of “the colonial subject as Other,” and warns us against buying into “a self contained representation of Europe,” as this ignores “its production by the imperialist project” (pp. 272, 280-281, 291). Elsewhere Spivak (1993) notes, “Europe’s ‘memory’ as itself has colonialism inscribed in it; keeping contemporary Europe ‘pure’ cannot escape that memory” (p. 113). Hence, the production and sustenance of both the sovereign-self and its other is dependent on their respective other. Their very being is inter-implicational, making them hybrid and excessive to any identification identified in terms of a binary opposition.

In the modernist imaginary, however, the oppositions are seen as safely external to each other. The outside does not contaminate and creolize the imagined purity of the inside. Their identity as, for example, distinct periods or styles, is uncontaminated by internal difference, by hybridity, by alterity, by otherness, by each one's other. This imaginary is what leads us to write about unified and distinct periods, spaced and following each other, along a unilinear time scale. We read and write about the “Middle Ages” as a unified period that is characteristically, uniformly, categorically and thus totally in the “dark” compared to the “Enlightenment” yet to come, the handmaiden of modernity. The modern period is similarly imagined as a totalized unity in its characterization. This is in defiance of the very obvious presence of different others, styles, characteristics, figures, who do not properly "belong" in "our" modern period but whom we designate as belonging to a different period that then needs to be located in the temporal past of that unilinear, oppositional scale.

Take the designation “backward” that is used routinely to characterize individuals, peoples, nations around the world. Those characterized as backward, are then seen and understood as belonging not to the present time but to the past—as measured on the modernist unilinear, oppositional scale, they are “back” in time—and thus, the past becomes their proper place and time of existence. They become like ghosts visiting from another time, which makes their presence in the present time of the modern a virtual one. As they are also actually existing, we could perhaps say that they are actu-virtual. Their actu-virtuality, their existence in “our” time, and not in “their” time, then becomes a problem, which is to say, *they* become a problem, to be dealt with by modern means and solutions ranging from expulsion from the ranks of humanity-proper to outright elimination.[2] Let us not forget that the Nazi concentration camps

[2] As an example of the rising tide of reactionary sentiments against immigrants and refugees around Europe, it was reported in the news recently that the French President Nicolas Sarkozy proposed to strip French nationality from those who commit certain crimes, particularly targeting foreign born nationals (Reuters 30 July 2010).

and the Holocaust are examples of "modern" solutions to this "problem." Zygmunt Bauman (1996), for example, argues that the Holocaust is not exceptional, representing the acts of a madman, but that it is the logical outcome of modernist thinking. Similarly, Giorgio Agamben discusses "the Camp" as "the biopolitical paradigm of the modern" in his *Homo Sacer: Sovereign Power and Bare Life* (1988), and draws our attention to how the unusual extension of power under the pretext of "a state of emergency" or a "state of exception"—a notion whose main reference continues to be Carl Schmitt, who has been called the "the crown jurist of the Third Reich"—among Western powers after the attacks of 9/11, has the potential to transform democracies into totalitarian states in his *State of Exception* (2005).

As the word modern means contemporary, those who claim modernity for themselves claim the present for themselves as well. It is their way of making themselves present—through such culturally specific representations involving an epistemic violence toward others. Thus, those who are deemed categorically different from "us" lose their claim to the present, and become essentially and epistemologically absent in the teleologically pre-sent time, despite their physical, material, and contemporary presence. That is why it is important to highlight the ethnocentrism, or more specifically the Euro- or West-centrism of the modernist imaginary and the epistemic violence that its ethnocentrism requires (Ilter, 1994). The history of colonialism and imperialism, and its neo- variants, is also the history of the attempt to "world" the world, that is to say, to reshape and reconfigure the world according to the dictates of this modernist imaginary.[3]

In dealing with this epistemic violence, the least we can do is to note that these different others did not come to be in our present by traveling in a time machine from the past. Rather, they are our contemporaries who are epistemologically and representationally projected to the past by the modernist imaginary, by the modernist worlding of the world. They represent a difference within that does not add up to complete the full presence of the modern. On the contrary, their presence in the modern troubles our traditional and conventional conception of the modern as purely and fully self-present. Ironically, it is to save this traditional conception that the excessive difference of the modern, its difference-within, is projected to the modern's outside by means of an ethnocentric and epistemic violence. In other words, what is thereby represented as new and modern turns out to be traditional itself. The recognition of this difference-within without recourse to an epistemic violence—a prejudicial way of knowing that erases it from the inside of the present and projects it to the outside—requires a deconstructive, post-modern rearticulation of the modern. Provided we rethink the word "new," we could say that it requires a new way of understanding the modern. The "post" of this post-modern rearticulation, therefore, does not and cannot refer to another indifferent period following the modern one, for this vision of successive periods along a unilinear path is informed precisely by the modernist imaginary. If we recall that the word modern means contemporary, it becomes clear that one cannot post the modern that way, or to say it differently, posting the modern that way is perfectly modernist.[4] Rather the post of post-

[3] I owe the phrase „worlding of the world" to Gayatri Spivak (1988) who uses it in, among other places, „Can the Subaltern Speak?"

4 Hal Foster distinguishes between "a postmodernism that deconstructs modernism" and "a postmodernism which repudiates the former to celebrate the latter: a postmodernism of resistance and a postmodernism of reaction" (Foster, 1983, p. xi-xii). I am highlighting the modernist architecture of this latter "postmodernism of reaction." See also Jean-François Lyotard who writes: "This idea of a linear chronology...in the sense of a simple succession, a diachronic sequence of periods in which each one is clearly identifiable...is itself perfectly 'modern'" (Lyotard, 1992, p. 76).

modern refers us to the modern's excessive difference within that prevents its closure onto itself and which opens it to further becoming (Ilter, 1994, p. 57-58). This is necessary to prevent the canonization of modernism's own rebellion and thus the closure of its nascent incompleteness. As we shall see, this notion of openness, to becoming other and different, is precisely what is meant by virtuality.

3. Binary oppositional reaction to cyberspace, virtual reality and hypertext

The modernist worlding of the world leaves us with two opposing possibilities in greeting cyberspace, virtual reality, and hypertext. As cybertechnophile handmaidens of the future, we greet them as harbingers of a future that will singularly liberate us from the limits and constraints of our traditional past, so that our present will cease to be constrained by the past and will, instead, be shaped and guided by this new, after-the-break future. Accordingly, they represent "the technology of miracles and dreams," allowing us to "play God," in virtual reality where "we can make water solid, and solids fluid; we can imbue inanimate objects (chairs, lamps, engines) with an intelligent life of their own. We can invent animals, singing textures, clever colors or fairies." Virtual reality alone is greeted as "the hope for the next century" with the ability to "afford glimpses of heaven" (Sherman & Judkins, 1992, p. 126-7, 134).

The euphoria afforded by this other, virtual existence rests on the promise of transcendence and liberation from our material and embodied existence in the here-and-now, providing access to an infinite, transcendent, and perfect other world. In Michael Benedict's words, "cyberspace is nothing more, or less, than the latest stage in [what Karl Popper designates as] World 3 [the world of objective, real and public structures which are the not-necessarily-intentional products of the minds of living creatures] with the ballast of materiality cast away—cast away again, and perhaps finally" (Benedict, 2000, p. 31). This notion of freedom based on the transcendence of material and corporeal "constraints" conceives the relation between virtual- or cyberspace and real space as a relation of mind to body, and rests on the patriarchal, hierarchical privilege accorded to the mind in Western thought. The often heard sexist mantra, “women are emotional, men are rational,” is but one expression of this view which holds that women are trapped in their bodies and their sensual experience, whereas men are able to transcend it in the ideal world of thought. Plato held that material, embodied forms are flawed, and that truth was to be found in the realm of disembodied *Ideas*. Here the mental and the physical are clearly separated, and the above mentioned representation of cyberspace as “the intentional products of the minds of living creatures with the ballast of materiality cast away” follows this line of thought. This is ironic, in that what is touted as new, finally enabling us to cast materiality away, turns out to be not new but old. It repeats a very old understanding of the relation between mind and body, which construes that relationship as mind over body, and recycles it as new.

What is also striking is that the projection of such utopian possibilities is not at all unique to cyberspace, virtual reality, and hypertext. Similar utopian promises and aspirations, as well as the fears, anxieties, and panics that I will discuss further down, have accompanied every major technological innovation since the Renaissance, and, perhaps more markedly, since the industrial revolution. Johan Gutenberg’s printing press, James Watt’s steam engine, the railway and its “iron horse”, and assembly line production based on Taylorist “scientific management” principles were all idolized—promising a wonderful new world full of possibilities not possible before—and demonized—fearful of the dangerous consequences—at the same time, eliciting reactions of both kinds. The industrial revolution, and the techno-

cultural innovations that brought it about, was welcomed by the capitalists as a fabulous means of gaining wealth. This was aided by ideologies of utilitarianism that called for the capitalists' unimpeded pursuit of profit. This, however, brought about the deterioration of the working people's lifestyles and standards of living. A number of Charles Dickens' novels, including *Oliver Twist*, depict the horrible working conditions in the factories in Britain at the time. Thus, it is not surprising that to many working people, the machine symbolized submission to a regime that exploited and oppressed them. A well-known example of workers' resistance to such exploitation comes from the so-called Luddites, who took their name from a Ned Ludd, and took to destroying mechanized looms used in the British textile industry in the early eighteen hundreds. The movement had grown so strong for a while that the Luddites clashed in battles with the British army.

When we consider how similarly these earlier techno-cultural innovations were received compared with the contemporary examples discussed above, and further in this text, these make—in an ironical twist—the newness of the new computer-based technologies in question a part of a long-standing tradition.

Regarding hypertext, for example, George Landow, writes, in a typically modernist fashion, of "a paradigm shift" that "marks a revolution in human thought" providing us with "a way into the contemporary episteme in the midst of major changes" (Landow, 1997, p. 2). Articulating the insights of designers of computer software like Theodor Nelson, who coined the word hypertext, and Andries van Dam with those of critical theorists like Roland Barthes and Jacques Derrida, Landow reaches the following understanding of their work: "All four...argue that we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity and replace them with ones of multi-linearity, nodes, links, and networks" (Landow, 1997, p. 2). And yet, the commonality of their relationship is misconstrued here. These related notions of a revolution in human thought, involving a paradigm shift where old concepts are abandoned and left behind, and are replaced by new ones, are precisely what are put in question and not warranted in the works of Barthes and, especially, of Derrida—but they do fit the modernist framework outlined earlier. Derrida's deconstruction is not destruction (of the old, or of what is criticized). The critic is not located in some metaphysical outside, like God is supposed to be, but is rather located within, and as part of the very textile weave that s/he is critical of. All her critical resources, including the language of her criticism, are inheritances that s/he borrows from the very textile that is put in question. However, as Derrida puts it, inheritance is not a given but a task. In what he refers to as "iterability" (repeatability with a difference), what is repeated, the old, changes and becomes different than what it was previous to the repetition. Everything harbors an unconditional secret that can never be fully and completely revealed, and is open to its own becoming different and other. This openness to a different future, always yet to come, this irreducible potential or secret, is what virtuality is about. By the same token deconstruction draws it power from the fact that things are always-already in deconstruction. Therefore, deconstruction is not an operation done by force on things from the outside. Hence, what is deconstructed is not erased or abandoned and replaced by something else entirely, in an operation of erasure or destruction, but is, rather, displaced from its privileged hierarchical position in the binary opposition by showing how it is indeed dependent and founded upon what it allegedly excludes and does not need.

Continuing with the opposite end of the spectrum of responses to cyberspace, virtual reality, and hypertext, we see various nostalgic Luddite reactions against their growing influence and power, a growth that is seen today as threatening our humanity, liberty, and reason.

According to Arthur and Marilouise Kroker, "we are living in a decisive historical time: the era of the post-human" where "virtualization in the cyber- hands of the new technological class is all about our being dumbed down," thus preventing "a critical analysis of the public situation" whereby the human species is "humiliated" as the subject of digital culture; indeed, what "we are talking about [is] a systematic assault against the human species" involving "the harvesting of human flesh as (our) bodies and minds are reduced to a database for imaging systems" (Kroker & Kroker, 2000, p. 97- 98, 101-103). The Krokers' attempt to introduce ethical concerns regarding technological innovation is thus based on an apocalyptic vision of cyber or virtual reality. Similarly, Kevin Robins quotes approvingly Peter Weibel who describes virtuality and cyberspace as psychotic, "where the boundaries between wish and reality are blurred," and continues to mourn how in this "psychotic" space "the reality of the real world is disavowed; the coherence of the self deconstructed into fragments; and the quality of experience reduced to sensation and intoxication" (Robins, 1995, p. 143-144). Although not specifically about cyberspace, Stanley Aronowitz's discussion of computer mediated work points out how "many corporations have used [computers] to extend their panoptic worldview" and how "they have deployed the computer as a means of employee surveillance that far exceeds the most imperious dreams of the panopticon's inventor Jeremy Bentham" (Aronowitz, 1994, p. 27). And indeed, we see many such examples around us.

A friend and colleague who teaches there informs me that the mayor of Balçova, who placed surveillance cameras in this town near İzmir, Turkey, put up bilboards in the city a while ago, which said the Balçova residents need not worry (for their safety), for they are watched over round the clock. In the UK, there are reportedly more surveillance cameras per person than in any other country in the world (Lewis, 2009). In London alone there are reportedly more than 500 000 cameras at work (Wall Street Journal, July 8, 2005). We could perhaps understand the appeal of a remarkable movie like *V for Vendetta* with this background of a trend towards a panoptic social order. Based on the graphic novel by Alan Moore and David Lloyd, and directed by James McTeigue, the movie takes place in London in a near future dystopian, completely authoritarian and panoptic society. The movie tells the story of a masked and costumed freedom fighter in this police state, whose attire commemorates Guy Fawkes, who attempted to destroy the Houses of Parliament in London with a group of Catholic conspirators in 1605.

4. Common root of the opposing reactions

These two reactions at odds with each other nevertheless share a common outlook. Both their enthusiasm for the singularly liberating nature of this new future as cyber technophiles, and their Luddite resistance to its singularly fascistic and panoptic encirclement are similarly informed by the modernist worlding of the world and the binary opposition between (advanced) modern and (backward) traditional or simply between future/present and past. Whether seen as good or bad, it is agreed that cyberspace, virtual reality, and hypertext herald an otherness defined in terms of an altogether different and new future to be distinguished categorically from the existing space/reality/textuality.

Within this framework, cyberspace, virtual reality, and hypertext are portrayed as signifiers of an altogether different and new future, and yet their otherness in a binary opposition is always and necessarily a "domestic other" whose otherness is not other to the binary structure of our knowledge, but one that is defined in its terms. Thus we always-already know what the other is all about. It is the binary opposite of what we know our world, and

ourselves, to be. Indeed we rely on this supplementary other to define our world and ourselves. For example, "they are traditional and backward, we are modern and advanced." Backwardness of the other, then is not an unknown that is then discovered, but it is projected from within the binary oppositional structure of what we already know. Similarly, virtual reality becomes a make-believe simulation, such as when student pilots "fly" on the ground, and not the "actual" reality of flying. It is by reference to this "real" reality that "virtual" reality assumes its immediately recognizable, hence domestic, identity as make-believe, as not-quite- real. It is significant, I think, to recall at this point that Baudrillard's definition of simulacrum as a copy without an original, together with his depiction of the real as "not only what can be reproduced, but [as] that which is always already reproduced," is undermining precisely this binary opposition: "Whereas representation tries to absorb simulation by interpreting it as false representation, simulation envelops the whole edifice of representation as itself a simulacrum" (Baudrillard, 1983, p. 11).

5. The difference that does not add-up

If the otherness of cyberspace, virtual reality, and hypertext were radically other, on the other hand, if it were "wild," so to speak, and not "domesticated," I could not give a recognizable and familiar account of it in the given terms of the binary structure of my thinking. In that case, the other exceeds my thinking. The otherness of the other is other to my domesticated, oppositional other. Such alterity then requires another kind of response. It requires a rethinking, a transformation, a further becoming of how I know the other. Only then could we speak of "new paradigms" and "new concepts and theories," and not when we embrace the domestic "new" of the modernist binary.

Furthermore, the difference between this "wild" other and the "domestic" other is not an external difference but a difference within the same word/term/concept: the other. Similarly, the differences between cyber and normal (?) space, virtual and actual (?) reality, hyper and ordinary (?) text also refer to a difference within. This difference does not refer us to the outside but is radical; it is at the root. This difference-within corresponds to the becoming of their being: to their becoming different and other to themselves. Hence, they do not have a complete, final, finished once-and-for-all being either as origin or as telos. The full presence of their being is always deferred in a ceaseless, an-archic becoming without an origin or telos. Hence, there is no original and stable reality, space, or text, to be nostalgic for, and to return to, after the "detour" of their alienation from their "real" selves. That "detour" is no detour with its sights set on a final return home to satisfy the second reaction, but, rather, a re-turn, that is, another change in direction, and another future.[5] Therefore, our notions of space, reality, and text need to be complicated and rethought to accommodate what they seem to oppose: cyberspace, virtual reality, and hypertext. To put it differently, the attributes that we project onto cyberspace, virtual reality, and hypertext are already at work in conventional space, reality, and text.

The latency and potentiality that excites us about cyberspace, virtual reality and hypertext are not their exclusive characteristics. At least since phenomenology, structuralism and poststructuralism, as well as psychoanalysis, we know that things are not self-identical and

[5] In discussing metaphor, which "is determined by philosophy as a provisional loss of meaning...a certainly inevitable detour...with its sights set on...the circular reappropriation of literal, proper meaning," Jacques Derrida argues that "de-tour is a re-turn" (Derrida, 1982, p. 270).

self-coincident, and that there is a generative, irreducible difference within them. This difference assures that things always differ from, and defer, who or what they are. Who or what they are is never complete in any final sense, but always provisional, in becoming or in process, and always to-come, always to be completed. To indicate both the spatial and temporal aspect of this difference, Derrida (1982) has coined the term *differance*, spelled with an *a* (p. 1-27). This differance is what opens things to the non-determinability of the future and gives us hope as to the coming of the new. The new is thus based on a repetition, or rather iteration, that is repetition with difference: New and repetition together. New is never altogether new, but resides or comes out in/from the old. What ties repetition to the new is the incalculable excess that Derrida (2001) also calls the absolute and unconditional secret that can never be fully and finally revealed because it is always to-come (p. 57-59).

Cyberspace, virtual reality, hypertext are not self- sufficient, self-referential entities. Rather, they are relative and differential concepts that owe their status as cyber-, virtual-, and hyper- to a reference to and a comparison with the unqualified space, reality, and text. The qualifying adjectives cyber, virtual, and hyper define them clearly as the products of a technological intervention involving miniaturized computer chips, digitalization of media products, computer hardware and software, fiber optic and other cables, satellite communication networks, Internet, the world wide web, and the like. However, it would be misleading to think that the unqualified space, reality, and text are not the products of technological interventions. The ones we designate as traditional space, reality, and text are, indeed, the outcome of older technological interventions that we have grown accustomed to, ones that we no longer see as technological, but as given conditions of everyday operations of the real (Grosz, 1997, p. 109). The border between the two is not sustainable but porous and mobile. This does not mean that they are not different, but that their difference is not external and categorical but inter-implicational.

6. Conclusion

What excites and scares us about cyberspace, virtual reality, and hypertext is their obvious incompleteness. This makes them prone to imaginary and projected futures, and suitable for dreams, hopes, and fears regarding what is yet to come. Our excitement, for instance, comes from the idea of an indeterminate, unspecifiable, and open-ended future, and the precedence of futurity over past and present. But, as Elizabeth Grosz points out, we did not have to wait for the computer screen, the Internet, and the web to enter virtual space and its domain of latency and potentiality. "We live in its shadow more or less constantly" (Grosz, 1997, p. 111). As the oxymorons virtual reality, cyberspace, and hypertext imply, virtuality already resides in reality, and space, and the characteristics attributed to hypertext are already at work in the ordinary, unqualified text.

The real/space/text are always open to the future, that is to say, open to potentialities and (re)articulations or (re)inscriptions other than those that are realized at the present, and the non-sequential, non-hierarchical attributes of hypertext are already found in the unqualified text. We could say that virtual reality/cyberspace/hypertext derive their seductive power from this possibility of the real/space/text becoming other than themselves. Therefore, it should not surprise us too much that even after introducing hypertext in terms of a "paradigm shift," a "revolution in human thought," and a "new episteme abandoning the old," that George Landow should refer to the traditional "scholarly article" in the humanities or physical sciences as the perfect embodiment of hypertext (1997, p. 4) (Fig. 2).

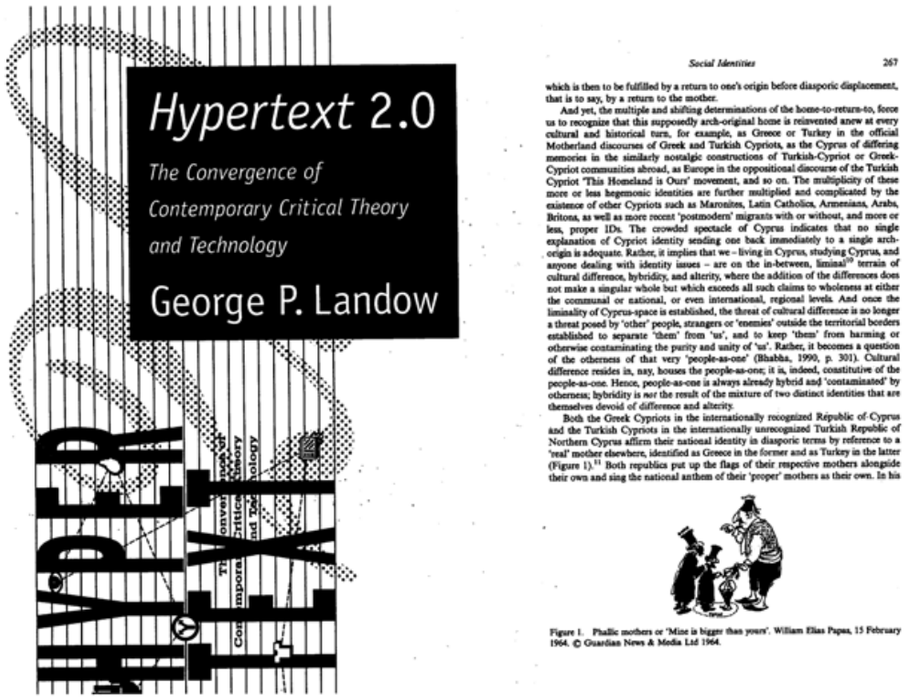


Fig. 2. Landow upholds the traditional scholarly article (example on right) as the perfect embodiment of hypertext.

The interimplication of both sides of our opposition virtual reality/cyberspace/hypertext versus reality/space/text calls on us not to be content with, say, the domesticated otherness of the former as the representative of the emergent future as opposed to the latter's stagnant traditionality, but rather to rethink the latter to accommodate the excluded features attributed to the former. In an example of such rethinking, Donna Haraway argues that the figure of the cyborg is our ontology, that is to say, it does not belong to a future-yet-to-come, but to the always-already here and now (Haraway, 2000, p. 292). Her thesis, thus, involves a rethinking, a retranscription, and a reformulation of our ontology. Moreover, the deconstruction of the modernist teleology means that there is no predetermined teleological destiny inscribed in these new technologies either as a powerful force of liberation or as fascistic and panoptic encirclement, but, rather, that they imply the possibility of both—which is to say that they are like the old technologies in this respect as well. Therefore, our active participation in the orientation and reweaving of the textile fabric of the cyberspace could mean the difference between one or the other.

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Edited by Prof. Jae-Jin Kim

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Technological advancement in graphics and other human motion tracking hardware has promoted pushing "virtual reality" closer to "reality" and thus usage of virtual reality has been extended to various fields. The most typical fields for the application of virtual reality are medicine and engineering. The reviews in this book describe the latest virtual reality-related knowledge in these two fields such as: advanced human-computer interaction and virtual reality technologies, evaluation tools for cognition and behavior, medical and surgical treatment, neuroscience and neuro-rehabilitation, assistant tools for overcoming mental illnesses, educational and industrial uses In addition, the considerations for virtual worlds in human society are discussed. This book will serve as a state-of-the-art resource for researchers who are interested in developing a beneficial technology for human society.

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InTech Europe
University Campus STeP Ri
Slavka Krautzeka 83/A
51000 Rijeka, Croatia
Phone: +385 (51) 770 447
Fax: +385 (51) 686 166
www.intechopen.com

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Unit 405, Office Block, Hotel Equatorial Shanghai
No.65, Yan An Road (West), Shanghai, 200040, China
中国上海市延安西路65号上海国际贵都大饭店办公楼405单元
Phone: +86-21-62489820
Fax: +86-21-62489821

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