Philosophy Study, February 2021, Vol. 11, No. 2, 96-106
doi: 10.17265/2159-5313/2021.02.003

Towards a Philosophical Understanding of Digital Environments

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Immersion within digital environments is a common experience for the inhabitants of contemporary technologically advanced societies: Familiarity with these environments and the technologies that make them possible has become so immediate that their unquestioned use is making such technologies ever more "transparent". The aim of this contribution is to question the obviousness of our relationship with digital technologies and environments, so as to address two specific (and correlated) questions: First, where—i.e., in what dimension—must we locate those spaces that we define as "digital"? And, secondly, where do we locate ourselves—as subjects-users (and producers) of such environments—when we "move" within them? These questions evoke the urgency of an inquiry into the new forms and modes of subjectivation in the digital context. I will address the topic by: (1) reconstructing the relation between the (first literary) concept of cyberspace and the notion of digital environment; and (2) proposing a certain philosophical understanding of digital environments, based on: (i) a phenomenological frame and (ii) a certain notion of interface as "thirdspace".

Keywords: digital environments, cyberspace, phenomenology, blended space, digital turn

Immersion within digital environments is a common experience for the inhabitants of contemporary technologically advanced societies: Familiarity with these environments and the technologies that make them possible has become so immediate (especially from the so-called "Y generation" [Dimock, 2019][1] onwards) that their unquestioned use is making such technologies ever more "transparent". While this phenomenon characterizes media of all kinds (Krämer, 2015),[2] the changes caused by the "digital turn" (Westera, 2015)[3] is forcing the philosophical and cultural debate in high-tech countries to face the task of a new critical inquiry. The aim of this contribution is to question the obviousness of our relationship with digital technologies and environments, so as to address two specific (and correlated) questions: first, where—i.e., in what dimension—must we locate those spaces that we define as "digital"? And, secondly, where do we locate

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[1] As is well known, the expression "Y generation" (first introduced by the journal *Advertising Age* in 1993) refers to the generation of those born between the 1980s and 1990s (also known as "Millennials"), who are characterized by the immediacy of their relationship with digital technologies and media—an immediacy which is even more defining for the next generation, the so-called "Z generation", characterized by immersion in the technological realm and an everyday online presence.

[2] As shown by German philosopher Sybille Krämer, an essential characteristic of media is precisely their transparency, i.e., their disappearance throughout their correct functioning: In the absence of all interferences, what we see in the foreground is the message transmitted by the medium and not the medium itself (this is also the meaning of McLuhan's well-known catchphrase "the medium is the message", exemplified by Krämer through the metaphor of the dying messenger, the *hemerodromos* who dies of exhaustion after running a long distance to deliver to the Athenians the news of their victory at Marathon.

[3] The expression "digital turn" indicates "the ever-growing flow of digital media, tools and devices that pervade our daily lives and connect us to the news and the communities and culture we are part of"; therefore, it refers to "(…) the role of computers, smartphones, social media, and the Internet at large and how these contribute to our understanding of the world" (Westera, 2015, last retrieved January 29, 2019).

ourselves—as subjects-users (and producers) of such environments—when we "move" within them? Where are we, when we access digital environments? All these questions evoke the urgency of an inquiry into the new forms and modes of subjectivation in the digital context.

From Cyberspace to Digital Environments

A first assessment of the concept of digital environment dates back to the 1980s and has a literary origin in cyberpunk literature with the concept of cyberspace. The most famous definition of cyberspace has been given by its inventor, William Gibson, in his 1984 novel *Neuromancer* (which is considered the cornerstone of cyberpunk):

> Cyberspace, a consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts. A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters, and constellations of data. Like city lights, receding.[4] (Gibson, 1984)

Until the end of the 1960s, science fiction had lived off very precise narrative schemes, focused on space travels and explorations. Later, the development of IT disclosed new narrative opportunities, which were consciously seized by Gibson (Csicsery-Ronay, 1988).[5] In a 2013 interview, he described the origin of his terminological and conceptual creation—the cyberspace—as follows:

> The science fiction arena of my childhood was space travel, and the vehicle was the rocket ship, the space ship. And in the 70s' early 80s', that wasn't resonant to me. I knew I didn't want to do that. I knew I didn't want to do the post-apocalyptic wasteland. I knew I wanted to try to write science fiction, but I didn't have an arena. And I arrived at cyberspace…. (Merchant, 2003)

Thus, Gibson "invented" cyberspace while searching for an "arena", a new setting for his sci-fi narrative (Wals, 2014).[6] He found inspiration—and this is a crucial aspect—by watching 80s' teenagers playing the first forms of *videogames* ever produced:

> (…) kids playing very early huge playwood-sided arcade games, and the body language of just intense longing and concentration (…) it seemed to me that *like they wanted right through the glass*, they wanted *to be right there with the Pong*,[7] or whatever.[8]

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[4] Gibson, 1984 (last retrieved January 29, 2019).

[5] In his 1988 article, Istvan Csicsery-Ronay underlines the shift from a first phase of sci-fi (until the 1960s), which he defines as "expansive" and based on space travels and conquests, to the second phase, defined as "implosive", in which the optimism caused by trust in science and scientific humanism gave way to criticism of the liberal ideology (brought into crisis by the technologization of societies and markets) and to a fascination with microcosms, automatic technologies and their colonization of human bodies, as well as to an interest in biotechnologies and rising IT—all elements that were to be adopted and radicalized by cyberpunk.

[6] Gibson further explains: "Dataspace didn't work, and infospace didn't work. Cyberspace. It sounded like it meant something, or it might mean something, bus as I started at it in red Sharpie on a yellow legal pad, my whole delight was that I knew that it meant absolutely nothing" (*ibid.*). It is interesting that Gibson himself retrospectively observed in 2014 that "in 1984, it was necessary to name the arena in which these events were taking place, because it didn't exist. Whereas, today, that arena is, in effect, the world we live in" (Gibson, 1984).

[7] The "Pong" was one of the first ever developed and commercialized video-games at the beginning of 1970s, and it was mostly available on early Arcade game supports: In this two-dimensional, black and white game, players could move a little white bar vertically on the screen, so as to throw—in a kind of virtual ping pong match—a tiny white ball back to their opponent (the computer itself or another player).

[8] *Ibid.* (my emphasis).

This quote explains the virtual origin of cyberspace as a notion, as well as the fascination (that came to characterize Gibson's whole production) for dematerialization and disembodiment, which are central features of cyberpunk aesthetics and narratives.

In his 1991 book *Storming the Reality Studio: A Casebook of Cyberpunk and Postmodern Science Fiction*, Larry McCaffery sharply sketched out the relationship between cyberpunk and sci-fi as a whole, contextualizing it within post-modernity. Cyberpunk authors were the first "(…) for whom the technologies of satellite dishes, video and audio players and recorders, computers and video games (both of particular importance), digital watches, and MTV were not exoticisms, but part of a daily 'reality matrix'" (McCaffery, 1991, p. 12). As expressed by Bruce Starling—among the forerunners of cyberpunk—in his manifesto *Islands in the Net*, cyberpunk describes "(…) a new kind of integration. The overlapping of worlds that were formerly separate: the realm of high tech and the modern pop underground" (Sterling, 1988, p. xi). Indeed, cyberpunk literature generally depicts "(…) an alternative post-industrial hybrid culture predicated on the interface of biotechnologically enhanced human bodies, interactive information technology, and omniscient corporate power". It is a genre closely linked to the early development of AI technologies, i.e. a "(…) genre of science fiction literature that deals with first generation cyborg or machine/human symbiotic activity in an immanent post-industrial information-governed universe" (Tomas, 1989, p. 113). Cyberpunk literature would have been inconceivable without the development of informatics and the changes caused by the so-called "Third Stage" of capitalism (Mandel, 1999)—the stage of post-industrial capitalism and the proliferation of information and of virtual goods, such as images, advertisement, virtual memories, simulated realities, duplicates, and copies of actual reality.[9] Cyberspace would not be conceivable without a global network of interdepending information technology infrastructures: It includes: (a) physical infrastructures and telecommunication devices; (b) computer systems; (c) networks between computer systems; (d) networks of networks; (e) access nodes of users and intermediaries routing nodes; and (f) constituent/resident data.[10] Thus, cyberspace strongly relies on digital infrastructures for its existence and can therefore be characterized as a digital, interconnected environment.

Towards a Philosophical Understanding of Digital Environments

The Concept of Digital Environment

In 2017, United Nations Educational, Scientific, and Cultural Organization (UNESCO) devoted a dossier to the topic "Culture in the Digital Environment" (Kulesz, 2017), thereby proving the urgency of the theme in the present time. However, the dossier does not provide any definition of digital environment, a concept so complex as to escape univocal categorizations. Similarly, the in-depth dossier on "The Digital Environment",[11] published some years ago by the Council of Europe and meant to provide some guidelines for minors' safety within the digital realm, does not define the concept, which is conceptually taken for granted. On the one hand, this reflects our familiarity with digital environments; on the other hand, this obvious reference should encourage a critical analysis—precisely because "the Digital Environment is so invasive and ubiquitous that it

[9] All these elements are at the core of many cyberpunk movies, such as *Blade Runner* (1982), *Blade Runner 2049* (2017), *Johnny Mnemonic* (1995—the screenplay of which was written by Gibson himself), *Escape From New York* (1981), *Videodrome* (1993), and the *Matrix* trilogy (especially the first episode, 1999)—not to mention the several movies that, in the 2000s, have (more or less) explicitly referred to cyperpunk themes and plotes.

[10] See the draft definition provided by the MIT and Harvard University ECIR project "Exploration in Cyber International Relations" (https://polisci.mit.edu/research/projects/explorations-cyber-international-relations, last retrieved January 23, 2021).

[11] Cf. https://www.coe.int/en/web/children/the-digital-environment, last retrieved January 31, 2020.

has become invisible".[12]

In very general terms, we can define digital environments as contexts or "spaces" produced by the interaction of electronic, digital, and wireless technologies serving (mostly) communicative, industrial, commercial, and recreational purposes: the Internet and social networks, augmented and virtual realities, military simulations, gaming, information and data proliferation, Web marketing, Global Position System (GPS) and location technologies, are all phenomena that fall within the framework of digital environments.

I would suggest we consider digital environments as specifications of Luciano Floridi's (1999) notion of "infosphere":

> The infosphere—he argues—is the *whole* system of services and documents, encoded in *any* semiotic and physical media, whose contents include *any* sort of data, information and knowledge […] with no limitations either in size, typology, or logical structure. Hence it ranges from alphanumeric texts (i.e., texts, including letters, numbers, and diacritic symbols) and multimedia products to statistical data, from films and hypertexts to whole text-banks and collections of pictures, from mathematical formulae to sounds and videoclips. (Floridi, 1999, p. 8, my emphasis)

Digital environments can be regarded as *digital* clusters (i.e., as specific cases) of data/"informational objects",[13] depending on the specific (combination of) digital technologies that are involved for their production. It is true that the notion of "digital environment" and that of the "infosphere" tend to overlap to some extent in the present time, since after the "fourth (Turingian) revolution", we have entered the stage of "hyperhistory", i.e., the age of history in which we as humans are becoming "aware that we are informationally embodied organisms or *inforgs* who are mutually connected and embedded in an informational environment, the *infosphere*" (Van Der Marteens, 2015).[14] However, I would regard digital environments as "localized environments", starting from which one can "address more universal concerns based on a wide variety of data" (Van Der Marteens, 2015) derived from them.

As underlined by Mark Curtis, it is possible to sum up four main features of digital environments: (i) context removal: Information circulates on the net in a mostly de-contextualized way, i.e., it is removed from the context of its original production. This causes a democratization of the access to information, but also, at the same time, more superficiality and a lack of accuracy in its production (*fake news*, etc.); (ii) new spatio-temporal forms: Distance is no longer a problem for communication and digital (immaterial) forms of information are preferred, which can circulate instantly without being affected by the physical distance between the people communicating. This also means that the virtual aspect of communication is becoming predominant over the physical and real one; (iii) Curtis speaks of "mobile reality" to emphasize the possibility of being connected always and everywhere by means of devices—such as the smartphone—that allow us to have continuous Internet access. Thus, the difference between "digital" and "real" is further eroded; and (iv) the constant use of mobile technologies has caused a generalized "distraction", meaning that users are now

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[12] Https://postmodernbible.blogs.com/files/what-does-codec-mean-by-a-digital-environment.pdf, last retrieved January 31, 2020. "Invisibility" is a distinctive feature of all media: when they function properly, they tend to disappear behind the message and it is precisely their realness and materiality that must be brought into the spotlight again, if one has to critically investigate them.

[13] Floridi (2008) describes "informational objects" as "(…) cohering clusters of *data*, not in the alphanumeric sense of the word, but in an equally common sense of *differences de re*, i.e., mind-independent, concrete points of lack of uniformity" (Floridi, 2008, p. 236).

[14] As Floridi (2014) explains: "All members of the G7 group—Namely Canada, France, Germany, Italy, Japan, the United Kingdom and the United States of America—qualify as hyperhistorical societies because, in each country, at least 70 per cent of the Gross Domestic Product (GDP, the values of goods and services produced in a country) depends on intangible goods, which are information-related" (Floridi, 2014, p. 4).

commonly engaged in multi-tasking without really concentrating on any of the activities undertaken (Curtis, 2015). Referring to audiovisual media, Mira Burri-Nenova (2008) had summed these features up with the following words:

> We can identify further-reaching salient features of the digital environment that are of the outmost importance to audiovisual media. These include: (i) the proliferation and diversity of content; (ii) its accessibility; (iii) the empowerment of the user to choose and pull the desired content (from the desired platform); and (iv) the new modes of content production, where the user is not merely a consumer but also an active creator, individually or as part of the community. (Burri-Nenova, 2008, p. 19)

In particular, "the digital environment does allow searching, finding and accessing information without linking to the real-life location of the user" (Burri-Nenova, 2008, p. 20). Basically, the main feature of a digital environment is its ability to produce "dual spacization", as defined by Saied Reza Ameli (2017): "Dual spacization is the emergence of a second space of life—a virtual space parallel to the first place of life—the physical space" (Reza Ameli, 2017, p. 1). This characteristic is typical of cyberspace as a narrative creation; therefore, it is also understandable as a philosophical construction. As stated by Arthur Asa Berger (2017),

> (…) cyberspace is best considered as a generic term which refers to a cluster of different technologies, some familiar, some only recently available, some being developed and some still fictional, all of which have in common the ability to simulate environments with which humans can interact. (Asa Berger, 2017, p. 19)

It is precisely this duality of virtual and real, which reflects the (alleged?) duality of physical body and virtual body that must first be addressed: where is cyberspace "located"? In what dimension are we, when we enter it?

Phenomenology of Digital Environments

Let us start from a very common physical experience, that of perceiving an object. Phenomenology has taught us that any perception of an object implies a certain degree of virtuality: By observing a house, for example, or touching the surface of an object, listening to a melody, etc., we are prompted to *imagine* further, potential perceptual developments. *Virtually*, all sides of the object, including those we do not actually perceive (for instance, the back), are present and co-perceived, albeit not in an actual way. The already passed duration of a melody and that yet to come are respectively remembered (retained) and predicted virtually with the help of our imagination, and in such a way that they are essentially connected to the sound that is being heard now. Generally speaking, no perception is possible in pure actuality: The human way of perceiving always implies an imaginative, virtual completion. This is mediated by an *interface*, which—in the case of perception—primarily consists in the sensory system. Thus, a possible description of the difference (and, at the same time, of the implication) between the virtual and the real depends on the way in which we differentiate between perception and imagination.[15]

A (phenomenological) gateway to such differentiation leads us to the analysis of the "image consciousness", as theorized by Edmund Husserl: to quote Nicolas De Warren (2014),

> (…) the image as image possesses a virtual manner of givenness. The underlying perceptual apprehension is modified in its manner of presentation by the imagination, transformed from a perceptual presentation (*Gegenwärtigung*) into a

[15] As underlined by Nicolas De Warren (2014), "one common way to draw such a distinction [between the real and the virtual] depends on a mirror distinction between 'perception' and 'imagination'. How we understand the relationship between perception and imagination underpins how we think about the distinction between 'real' and 'virtual'" (p. 95). In other words, "any theory of virtual fiction must imply a theory of the imagination (…)".

> "representification" (*Vergegenwärtigung*) of something other-than-visible—the depicted and "spiritual" (*geistig*) image-subject seen in the image. (De Warren, 2014, p. 103)

It is clear that, from a phenomenological point of view, such a notion of interface requires a phenomenological theory of the virtual. As I have already showed in previous articles (Buongiorno, 2019; 2020), a phenomenology of the virtual is possible, in my view, based on three assumptions:

(1) Deleuze's distinction between possible and virtual, and hence the criticism of the conception of the virtual as that which is merely *opposed* to what is real;

(2) the application of the notion of eidetic variation and of the virtuality of the process of perception according to their phenomenological (and especially Husserlian) meaning;

(3) the application of the notion of "flesh" developed by Merleau-Ponty, which transcends the notion of body (with its limits and material quality) in a connective and virtual sense.

Let us briefly consider these three assumptions.

(1) In his *Difference and Repetition*, Deleuze (1994) wrote:

> We opposed the virtual and the real: although it could not have been more precise before now, this terminology must be corrected. The virtual is opposed not to the real but to the actual. The virtual is fully real in so far as it is virtual. Exactly what Proust said of states of resonance must be said of the virtual: "Real without being actual, ideal without being abstract"; and symbolic without being fictional (…) The reality of the virtual consists of the differential elements along with singular points which correspond to them. The reality of the virtual is structure (…) far from being undetermined, the virtual is completely determined. (Deleuze, 1994, pp. 208-209)

Deleuze's intuition has proven all the more true today, as not only the concept of "*virtual reality*" has become well-established but also—with a further distinction—that of "*augmented reality*". In the contemporary discourse on computer technology, the level of AR achieves a genuine integration between the virtual and the real, which is not typically the case with VR (where the assumption is the creation of an isolated virtual environment). Virtual reality is all about the creation of a virtual world that users can interact with; this virtual world should be designed in such a way that users would find it difficult to tell the difference between what is real and what is not. Augmented reality is the blending of virtual reality and real life, as developers can create images within applications that blend in with contents in the real world. In other words, neither VR nor AR is *opposed* to the real; but whereas the former is a (digital) simulation of the real, the latter is a (digital) integration of the real that allows interaction with it. Not only is the virtual not opposed to the real, but neither should it be understood as an immateriality opposed to the materiality of the real (Kozel, 2007). Indeed, from a phenomenological perspective, Deleuze's assumption is confirmed on at least two phenomenological levels: that of eidetic variation and that of the process of perception.

(2) In *Ideas*, Husserl (2012) described eidetic variation as that method by which the phenomenologist can grasp the invariant structures of phenomenal reality. Variation is based on the fictional character of the imagination, "the vital element of phenomenology as of all eidetic sciences" (p. 148). The potentially unlimited power of variation is de facto bound to the world, which is already given: As Bernard Waldenfels (1971) had noted,

> eidetic variation must set out from the real world; as a starting point, this is unsurpassable and hence more than a mere example (...) As Husserl himself ultimately realized, variation is not a game suspended in mid-air, but *gebundene Variation*. (Waldenfels, 1971, pp. 277-278, my translation)

In this sense, we may conceive eidetic variation as a simulation (VR) that creates a virtual world which is not opposed to reality—for the latter actually stands as its foundation—but which has an ideal content: The virtuality of eidetic variation would therefore be opposed to the actuality of the world (as Deleuze suggested) and not to its reality. According to this perspective, we may understand life logging as a virtual transposition of the contents of real experience, and hence as the creation of an eidetically varied ideal world.

(3) According to Merlau-Ponty, the human body is both immanent and transcendent:

> "Immanence" refers to the material, corporeal flesh and bone aspect of the human body. It is through the immanent body that we experience sensation and are physically present in the world. "Transcendence" refers to those aspects of us that are not material: our intellectual, imaginative and cognitive processes. (Ladkin, 2012)

The constant osmosis between immanence and transcendence means that

> it is impossible for humans to assume the "God perspective" in which they objectively observe the world in such a way that they are not affected by the world observing them back. Human beings cannot perceive without simultaneously being perceived. (Ladkin, 2012)

This chiasmus or reversibility of the process of perception—what Merlau-Ponty (1968) called *Flesh*, the connective structure that conveys the possibility of every aesthetic experience (and which is invisible in itself)—implies a constant osmosis between the virtual and the real and provides us with a better understanding of ourselves as "inforgs" (to put it with Floridi), i.e., as "informationally embodied organisms (…) who are mutually connected and embedded in an informational environment" (Van Der Marteens, 2015).

A "Thirdspace" Between the Virtual and the Real

The Husserlian image-object described by De Warren serves as an *interface* between the perception of the actual object and its imaginative reconstruction. Such an interface is also located in a kind of phenomenological "thirdspace"[16]: A similar situation is entailed by cyberspace/digital environments. Kevin Robins (1995) has suggested that we conceive cyberspace and virtual reality in general as a form of Winnicott's "potential space", i.e., "the 'third area of human living', neither inside the individual nor outside the world of shared reality, the space of creative playing and cultural experience" (Robins, 1995, p. 145). Potential space is a transitional space, i.e., an intermediate space: Within it, the individual becomes

> capable of entering into relationships with actual objects in a manner that involves more than a simple transference projection of his internal object world (…). Mental representations acquire increasing autonomy from [their] origins and from the omnipotent thinking associated with relations between internal objects. (Ogden, 1986, pp. 193-194, as cited in Robins, 1995, p. 145)

Similarly, Kosari and Amoori (2018) have recently introduced the notion of "*thirdspace*" as an intermediate space between the virtual and the real. The authors' starting point is Henri Lefebvre's theory of the distinction between three kinds of space, i.e., *conceived space* (resulting from the interaction between the individual and the real space on the perceptual level), *perceived space* (resulting from the representations of

[16] This suggestion, however, has some limits, as underlined by De Warren (2014): "Yet, to what extent can we speak phenomenologically of an embodied experience within a virtual world? Even though Husserl speaks of 'quasikinaesthetic' sensations of the imaginary, it remains a complex question whether the lived-body (*Leib*) can in truth appear and be experienced within the imaginary" (De Warren, 2014, p. 106).

individual perceptions), and *lived space* (the space that the individual actually *lives in* and that absorbs the other two forms of space) (Lefebvre, 1991/1974). By emphasizing the analogy of this conception with Fauconnier and Turner's (2002) theory of the *blended* (or *mental*) *space*,[17] Kosari and Amoori (2018) focused on the latter in order to show that "by mental space and blended space Fauconnier and Turner mean that an individual's understanding of different spaces leads to the creation of a new space which they call 'mental space' or 'blended space'" (p. 168). Such a blended space, which Kosari and Amoori call "thirdspace", essentially consists of cognitive schemes and maps, the function of which is to expand our conceptual nets and to facilitate our action and behavior in the real world. As stated by Fauconnier:

> Blending is in principle a simple operation, but in practice gives rise to myriad possibilities. It operates on two Input mental spaces to yield a thirdspace, the blend. The blend inherits partial structures from the input spaces and has emergent structure of its own. (Fauconnier, 1997, p. 149)

These cognitive schemes—Fauconnier and Turner (2002) added—work in a largely unconscious way ("The way we think is not the way we think we think" [p. v]) and their potential is threefold:

> The power of blending is three-fold: (1) blending lets us create new ideas in the blend that are congenial to our minds—it is the origin of ideas; (2) a blend gives us a handy tool for working on the mental web it serves; and (3) the blend is small enough to be carried around mentally and to be expanded to connect our current situation. (Turner, 2014, p. 16)

Such a blended space, which Kosari and Amoori call "thirdspace", and which I would label as an "interface" in the phenomenological sense described above, essentially consists of cognitive schemes and maps, the function of which is to expand our conceptual nets and to facilitate our action and behaviour in the real world. I would suggest we interpret this notion of interface by referring—again—to Luciano Floridi's (2004) theory of Levels of Abstraction (LoA):

> According to the [LoA] methodology—he argues—any access to data (and hence any access to whatever aspect of the world is under scrutiny) is *mediated* by an ontological commitment to a level of abstraction that can be roughly understood as an *interface.* (Floridi, 2004, p. 662)

A level of abstraction can indeed be conceived of as a "conceptual interface: an interface (called a *gradient of abstractions*) consists of a collection of LoAs. An interface is used in analysing some system from varying points of view or at varying LoAs" (Floridi, 2008, last retrieved July 13, 2020). Therefore, an interface—when understood epistemologically—is the structure by means of which we access a set of data in order to analyze them; phenomenologically conceived that it is also the way we access a system in our lived-experience.

Kosari and Amoori (2018) integrated Lefebvre, Fauconnier, and Turner's theories in their proposal of the *thirdspace*, which can be visualized through Figure 1:

[17] Both authors also contributed to the theory of the blended space independently of one another: see, for instance, Fauconnier (1994) and Turner (2014).

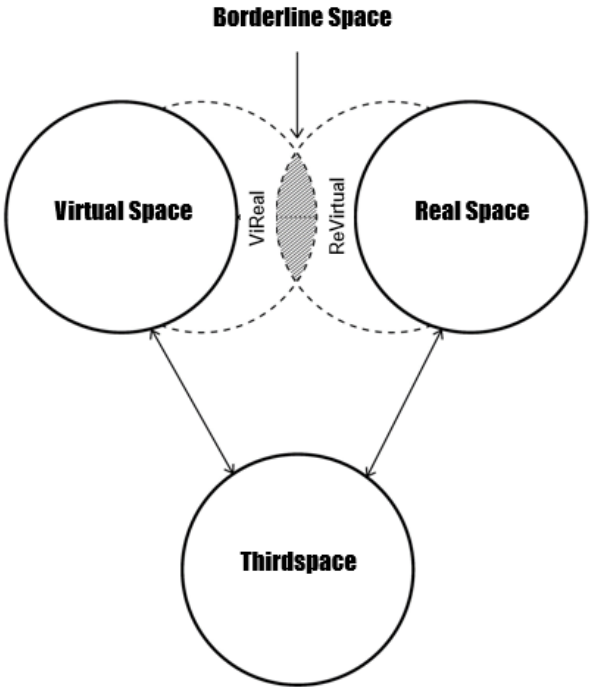

Figure 1. The trialectics relation between virtual space, real space, and thirdspace (Source: Kosari & Amoori, 2018, p. 180).

The figure shows that thirdspace does not coincide with the intersection of real space and virtual space (defined as "border space"): It rather represents an emergent dimension, a truly new and "third" space which effects the interaction between the virtual and the real. "Thirdspace overcomes the duality of the real and virtual spaces as conjoined twins and speaks of a new interactive space that is formed in the user's mind:" (Kosari & Amoori, 2018, p. 180) in other words, the "thirdspace" is a *blended space* that conveys the mediation between virtual and real space—as a kind of cognitive interface—so that both spaces exert real effects on the subject and are conceived as equally real by the subject. A description that allows us to cognitively reduce the dualism between the virtual and the real is required by the very nature of human interaction with the current digital sphere in our everyday life, especially given the following aspects, emphasized by Kosari and Amoori (2018):

> 1. Most users often live in the real space and sometimes peep through the virtual space as well.
> 2. Users seem to be living mostly in the real space but in fact most of their time is spent on interactions *via* the virtual space.
> 3. Users keep switching between real space and virtual space.
> 4. Users are not living in two spaces. The live in a blended synthetic Thirdspace that has the characteristics of the two, real and virtual spaces. (p. 181)

To come back to our initial questions, cyberspace (or the digital, virtual environment), on the one hand, and real space (or physical space), on the other hand, do not represent—in themselves—the dimension we actually live in, i.e., the phenomenologically significant dimension. It is their interaction and blending that we actually live in and experience through the interface between the virtual and the real, i.e., through the "thirdspace" resulting as a conceptual scheme from the cognitive and vital blending between virtual space and real space. Such an interface conveys elements of both dimensions and it is on its surface that we actually live in our everyday life: We experience (and know) *both spaces* in their blending, in their mediation, and not in

their absoluteness. Moreover, it is precisely starting from their mutual implication, that we can also draw a distinction between them and search for similarities and differences.

References

Asa Berger, A. (2017). O brave new world: The dark side of cyberspace. *Journal of Cyberspace Policy Studies, 1*(1), 19-35.

Buongiorno, F. (2019). Embodiment, disembodiment and re-embodiment in the construction of the digital self. *Humana Mente, 12*(36), 310-330.

Buongiorno, F. (2020). Extended selves: Phenomenological remarks on digital processes of subjectification. In L. Guidi and T. Rentsch (Eds.), *Phenomenology as performative exercise* (pp. 214-225). Leiden, Boston: Brill.

Burri-Nenova, M. (2008). Trade versus culture in the digital environment: An old conflict in need of a new definition. *2008 NCCR Trade Regulation, Working Paper No. 2008/17*. Retrieved from http://www.phase1.nccr-trade.org/images/stories/publications/trade_culture_burri.pdf

Clynes, M. E., & Kline, N. S. (1960). Cyborgs and space. *Austronauti*cs, *5*(9), 26-27, 74-76.

Csicsery-Ronay, I. (1988). Cyberpunk and neuromanticism. *Mississipi Review, 16*(2/3), 266-278. Retrieved from https://project.cyberpunk.ru/idb/cyberpunk_and_neuromanticism.html

Curtis, M. (2015). Distraction: Being human in the digital age. Retrieved from https://openlibrary.org/works/OL1869286W/Distraction

De Warren, N. (2014). Towards a phenomenological analysis of virtual fictions. *Metodo: International Studies in Phenomenology and Philosophy, II*(2), 91-112.

Deleuze, G. (1994). *Difference and repetition.* (P. Patton, Trans.). New York: Columbia University Press.

Dimock, M. (2019). Defining generations: Where millennials end and Generation Z begins. *FactTank*. Retrieved from https://perwresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins

Fauconnier, G., & Turner, M. (2002). *The way we think: Conceptual blending and the mind's hidden complexities*. New York: Basic Books.

Fauconnier, G. (1994). *Mental spaces: Aspects of meaning construction in natural language*. Cambridge, UK: Cambridge University Press.

Floridi, L. (1999). *Philosophy and computing: An introduction*. New York: Rutledge.

Floridi, L. (2004). Afterword: LIS as applied philosophy of information: A reappraisal. *Library Trends, 53*(3), 658-685.

Floridi, L. (2006). Information ethics, its nature and scopes. *SIGCAS Computers and Society, 36*(3), 21-36.

Floridi, L. (2008). A defence of informational structural realism. *Synthese, 161*(2), 219-253.

Floridi, L. (2012). Turing's three philosophical lessons and the philosophy of information. *Transactions of the Royal Society A, 370*, 3535-3542.

Floridi, L. (2014). *The fourth revolution: How the infosphere is reshaping human reality*. New York: Oxford University Press.

Gibson, W. (1988). *Neuromancer*. New York: Ace Books. Retrieved from https://archive.org/stream/NeuromancerWilliamGibson/Neuromancer%20-%20Williamo%20Gibson_djvu.txt

Heim, M. (1993). *The metaphysics of virtual reality.* Oxford: Oxford University Press.

Husserl, E. (2012). *Ideas I: General introduction to pure phenomenology*. (W. R. Boyce Gibson, Trans.). London: Routledge.

Kosari, M., & Amoori, A. (2018). Thirdspace: The trialectics of the real, virtual and blended spaces. *Journal of Cyberspace Studies, II*(2), 163-185.

Kozel, S. (2008). *Closer: Performance, technologies, phenomenology*. Cambridge, MA: The MIT Press.

Krämer, S. (2015). *Medium, messenger, transmission: An approach to media philosophy*. Amsterdam: Amsterdam University Press. (original German edition [2008]. *Medium, Bote, Übertragung. Kleine Metaphysik der Medialität*. Frankfurt: Suhrkamp)

Kulesz, O. (2017). *Culture in the digital environment*. Paris: UNESCO.

Ladkin, D. (2012). Perception, reversibility, "flesh": Merleau-Ponty's phenomenology and leadership as embodied practice. *Integral Leadership Review*. Retrieved from http://integralleadershipreview.com/6280-perception-reversibility-flesh-merleau-pontys-phenomenology-and-leadership-as-embodied-practice/#

Lefebvre, H. (1991/1974). *The production of space*. Oxford: Basil Blackwell.

Mandel, E. (1999). *Late capitalism*. New York: Verso.

McCaffery, L. (1991). Introduction: The desert of the real. In I. Mccaffery (Ed.), *Storming the reality studio: A casebook of cyberpunk and postmodern science fiction* (pp. 1-16). Durham, NC: Duke University Press.

Merchant, B. (2003). Why William Gibson invented cyberspace. *Vice*. Retrieved from https://www.vice.com/en_us/article/78834d/why-william-gibson-invented-cyberspace

Ogden, T. H. (1986). *The matrix of the mind: Object relations on the psychoanalytic stage*. Northvale, NJ: Jason Aronson.

Raulet, G. (1991). The new utopia: Communication technologies. *Telos, 87*, 39-58.

Reza Ameli, S. (2017). Dual spacization of cultures: Problematization of cyberspace and cultural matters. *Journal of Cyberspace Policy Studies*, (1), 1-18.

Robins, K. (1995). Cyberspace and the world we live in. *Body & Society, 1*(3-4), 135-155.

Sterling, B. (1988). *Islands in the net*. New York: Ace Books.

Takayuki, T. (Ed.). (1997). *Uiriamu Gibusun*. Tokyo: Sairyusha.

Tomas, D. (1989). The technophilic body. On technicity in William Gibson's cyborg culture. *New Formations, 8*, 113-129.

Turner, M. (2014). *The origin of ideas: Blending, creativity, and the human spark*. Oxford: Oxford University Press.

Van Der Marteens, B. (2015). An illustrated introduction to the infosphere. Retrieved from https://www.semanticscholar.org/paper/An-Illustrated-Introduction-to-the-Infosphere-Martens/cc85539a72c660a1da86a6ff558a9fbf423a6f13

Waldenfels, B. (1971). *Das Zwischenreich des Dialogs. Sozialphilosophische Untersuchungen in Anschluss an Edmund Husserl*. The Hague: Springer.

Wals, J. (2014). William Gibson talks cyberpunk, cyberspace, and his experiences in Hollywood. *Vice*. Retrieved from https://www.vice.com/en_us/article/bn5k5m/william-gibson-interview-399

Westera, W. (2015). The digital turn: How the Internet transforms our existence. Retrieved from https://thedigitalturn.co.uk/TheDigitalTurn.pdf