AUGMENTED ONTOLOGIES;

or,

How to Philosophize with a Digital Hammer.

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0. ABSTRACT

Could a person ever transcend what it is like to be in the world as a human being? Could we ever know what it is like to be other creatures? Questions about the overcoming of a human perspective are not uncommon in the history of philosophy. In the last century, those very interrogatives were notably raised by American philosopher Thomas Nagel in the context of philosophy of mind. In his 1974 essay *What Is it Like to Be a Bat?* Nagel offered reflections on human subjectivity and its constraints. Nagel's insights were elaborated before the social diffusion of computers and could not anticipate the cultural impact of technological artefacts capable of materializing interactive simulated worlds as well as disclosing virtual alternatives to the 'self'. In this sense, this article proposes an understanding of computers as epistemological and ontological instruments.

The embracing of a phenomenological standpoint entails that philosophical issues are engaged and understood from a fundamentally practical perspective. In terms of philosophical *praxis*, or 'applied philosophy', I explored the relationship between human phenomenologies and digital mediation through the design and the development of experimental video games. For instance, I have conceptualized the first-person action-adventure video game *Haerfest* (TECHNICALLY FINISHED, 2009) as a digital re-formulation of the questions posed in Nagel's famous essay.

Experiencing a bat's perceptual equipment in *Haerfest* practically corroborates Nagel's conclusions: there is no way for humans to map, reproduce or even experience the consciousness of an actual bat. Although unverifiable in its correspondence to that of bats *Haerfest* still grants access to experiences and perceptions that, albeit still inescapably within the boundaries of human kinds of phenomenologies, were inaccessible to humans prior to the advent of computers. Phenomenological alterations and virtual experiences disclosed by interactive digital media cannot take place without a shift in human kinds of ontologies, a shift which this study recognizes as the fundamental context for the development of a new humanism[i].

Additionally, this study explicitly proposes and exemplifies the use of interactive digital technology as a medium for testing, developing and disseminating philosophical notions, problems and hypotheses in ways which are alternative to the traditional textual one. Presented as virtual experiences, philosophical concepts can be accessed without the filter of subjective imagination. In a persistent, interactive, simulated environment, I claim that the crafting and the mediation of thought takes a novel, projective[ii] dimension which I propose to call 'augmented ontology'.

1. INTRODUCTION

One single word, *techné*, was used in ancient Greece to denote both 'craft' and 'art'. Since the coining of the word, technology and art have gradually developed into two separate cultural

contexts. Dutch philosopher Jos De Mul noted that from the onset of Western culture and its social production, the creations of craftsmen and artists depended on the mastery of specific tools. However, De Mul continued, the contemporary artists are no less reliant on technological tools than their prehistoric predecessors and this is especially obvious in the case of the development of virtual worlds[iii] (De Mul, 2010, 139). The creative instruments afforded by digital media grant, in fact, a vast horizon of combinatorial possibilities for individual expression and, at the same time, are completely dependent on their technological platform. In this sense, computers can be recognized as capable of encompassing the current dichotomic understanding of the concepts of 'art' and 'technology'. It is not coincidental that, in concomitance with the rise and proliferation of interactive digital media in the early nineties, virtual worlds had often been acclaimed as the 'spaces' where technology and art can return to their original unity. Examples of this understanding of the cultural role of digital media can be found, for instance, in Pimentel and Teixeira's 1993 *Virtual Reality: through the new looking glass* and Michael Heim's book *The Metaphysics of Virtual Reality*, published in the same year.

In his 1938 essay *The Age of the World Picture*, Martin Heidegger proposed a critique to the modern understanding of the Greek concept of *techné*, which he accused of being superficial and unfaithful to its original meaning. In the same essay, Heidegger explained that, in ancient Greece, *techné* denoted an epistemological approach:

> "[t]echné, as knowledge experienced in the Greek manner, is a *bringing forth* of beings in that it *brings forth* present being as such out of concealedness and specifically into the unconcealedness of their appearance; *techné* never signified the action of making." (Heidegger, 1977, 59)

Even earlier, in his 1936 essay *The Origin of the Work of Art*, Heidegger presented the artwork as a specific artefact endowed with the potential to disclose a world, of opening up new ways in which reality[iv] can 'unconceal' itself. (Heidegger, 2008) "[t]*echné* belongs to bringing-forth, to *poiesis*; it is something poetic." (Heidegger, 1982, 13) The way in which art can engender such disclosure was never explicated in details, even so its potential for experientially influencing the way human beings structure their relationships with reality (and thus allowing for the emergence of new worlds) was overtly recognized by Heidegger as the cultural role of artistic production.

The 1951 essay *Building, Dwelling, Thinking*, written in the later phase of Heidegger's thought marks the following step in his development of the relationship between artefacts and thought. In *Building, Dwelling, Thinking*, Heidegger attributed the capability to "let come into being" and disclose worlds – reserved exclusively to artworks in the earlier phases of his thought – to all things (Verbeek, 2005, 89). This dimension of the cultural role of artefacts is lost in Heidegger's subsequent focus on the development of a philosophy of technology. The later phase of his work, in fact, sublimated his understanding of technology to a *Zeitgeist*, reducing *techné* to its transcendental conditions of possibility (what technology requires and presupposes as an abstract concept) and failing to connect it with specific, technologies and their practical affordances.

This study explores the role of *techné* (in particular in its digital manifestation) as an influential factor of socio-cultural change. However, in order to avoid the pitfalls of a transcendental and pessimistic understanding of technology, I decided to take an approach that diverged from the seminal path laid by Heidegger and that can be defined as postphenomenological. I deem a postphenomenological stance to be capable of providing the balanced and constructive interpretation of the role of

technologies as mediators between human beings and reality that I consider necessary to understand virtual worlds as epistemological and ontological instruments.

In the context of this study, I will use the term 'postphenomenology' in two interrelated interpretations:

1. **'Postphenomenology' as the praxis-perception model originally proposed by American philosopher of technology Don Ihde:** according to this understanding, postphenomenology can offer a perspective on philosophy of technology capable of overcoming the shortcomings of classical phenomenology in terms of taking the context-dependence of human knowledge into account (Verbeek, 2005). Following the classical phenomenological tradition Ihde presents the objective of technology as that of revealing dimensions and qualities of the actual world that could not be observed or experienced without the mediation of technical instruments. In this sense, Ihde's perspective has strong affinities with – and in a sense continues the work of – some of the most interesting accounts of the relationships between human beings and reality that developed from classical phenomenology[v]. Differently from classical phenomenology, however, Ihde considers that the development of a relationship between human beings and reality precedes the theoretical establishment of a subject and an object of observation themselves. This means that, according to a postphenomenological perspective, human beings and their worlds are always mutually constitutive in their fundamental interrelation. (Ihde, 1993, 3, 7). In the constitutive encounter between humans and reality, a specific 'objectivity' of reality arises (a world), and so does a specific 'subjectivity' of human beings. In this sense, when trying to understand digital media from a postphenomenological perspective, their role as mediators cannot be regarded as a taking place 'between' subject and object (Verbeek, 2005, 130). Mediation needs, instead, to be understood as a way in which subject and object mutually constitute each other and, in their relationship, can never be isolated or absolutized.

2. **'Postphenomenology' as the phenomenological approach to post-humanism:** the latter is a cultural movement that affirms the possibility and the desirability of altering the way human beings are in the world by developing technologies capable of 'overcoming' biological limitations inherent in being human (for instance their mortality, the limited extent of their memory, *et cetera*). In his work, Ihde showed that, in contemporary Western culture, potentially all human perceptions and actions are already mediated by technical devices. From this perspective, humans can be understood as cyborgs: hybrid beings that are constituted, defined and influenced by both their biological dimensions and their technological ones. According to this second acceptation of 'postphenomenology', human beings and the worlds they can experience are embraced as products of (technological) mediation and not as the conceptual extremes among which mediation takes place.

I believe it is important to observe here that, for classical phenomenology, technology consists of a particular – and particularly reductive – relationship with the world. Heidegger's later work in the field of philosophy of technology is a particularly obvious example of such an approach. Heidegger presented, in fact, an understanding of technology as a derivative mindset: a construal of the world as a storehouse of raw materials that lies ready for human manipulation. From the postphenomenological perspectives offered by Ihde and Verbeek, instead, technology and technological artefacts do not necessarily entail a reduction, an impoverishment of the alleged ideal of a whole and authentic reality or of the way we are "destined to" experience and understand it as human beings. Conversely, technologies are recognized by postphenomenologists as fundamental mediators of the relationships between human beings and reality that have the potential for opening up new ways in which reality can manifest itself (and for humans to shape it and be shaped in

return). Accordingly, technology is not understood as an abstract and alienating force precluding humankind from experiencing the 'full richness' of existence. On the contrary, this study recognizes digital technology as the poetic[vi] context where a new humanism can develop.

For postphenomenology, technology constitutes a new reality, a new 'objectivity' (Verbeek, 2005, 135). A postphenomenological approach to philosophy of technology discloses an understanding of technical artefacts in terms of their capabilities and their effects as mediators, which is to say as concrete artefacts which are never 'in themselves' but are always in a relationship with the human beings who engage with them. (Ihde, 1990, 125)

2. THE POTENTIAL OF TRADITIONAL MEDIA FOR INFLUENCING METAPHYSICS

Plato, whose thought and work lie at the very core of the Western metaphysical tradition, understood art as a second-order imitation: *mimesis* (Plato, *Republic*, 605). Surprisingly, though, it was also within the Platonic tradition that alternative perspectives to the Platonic, mimetic conception of art was first proposed. In Plotinus' *Enneads*, for instance, works of art do not merely copy the already imperfect beings that can be encountered in the world, but operate next to the world: they materialize and express the artists' visions (*Enneads* I 6.3; V 8(31).1). As a consequence of this shift of perspective, the artists were no longer perceived as earthly craftsmen, but rather as somebody whose creative and socially valuable activities could be compared to those of the philosophers.

The passage from art understood as *mimesis* (imitation) to art understood as *poiesis* (creation) is particularly obvious in the tradition starting from Romanticism, where the artist openly replaced God (also figuratively) as creators, originators of new worlds (De Mul, 2010, 155). American humanist Gregory L. Ulmer analogously argued that modernism, especially via the use of techniques such as collage and montage

> "[…] does not reproduce the real, but constructs an object […] or rather mounts a process […] in order to intervene in the world, not to reflect but to change reality." (Ulmer, 1983, 86)

The aesthetical strategies adopted by Dadaism are exemplary with regard to the original expression of new visions of reality which assertively challenge the figurative canons that preceded modernism. It is, in fact, not uncommon for the works produced within this artistic current to feature uncanny compositions that implement multiple representation techniques, often often logically and aesthetically incongruent with each other (see Figure 1).

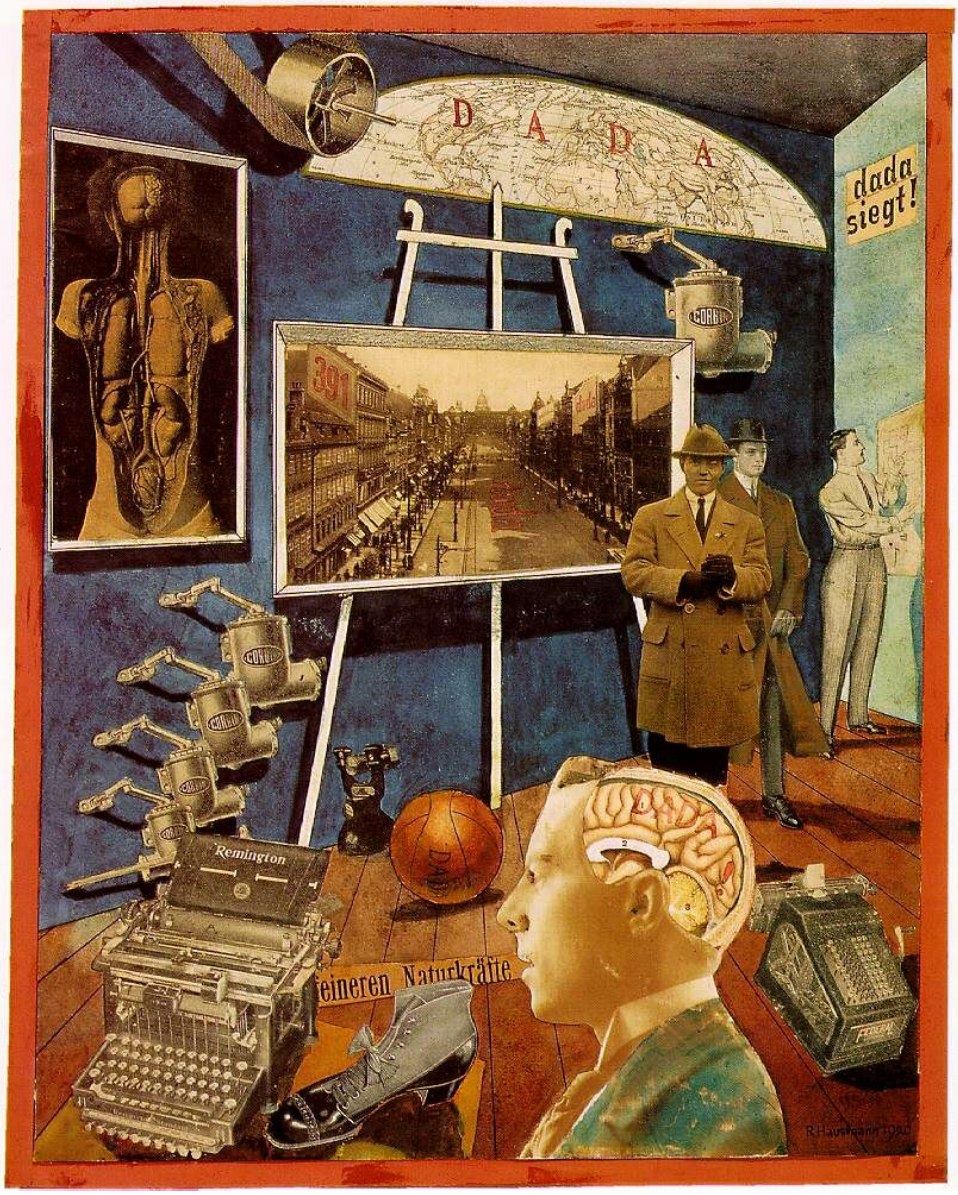

Figure 1: Hausmann, Raoul, 1920, *Dada Siegt*, Watercolor and collage on wove paper mounted on board, Overall 23 5/8 in. x 17 3/4 in., private collection.

Dada's artistic objective was admittedly that of weakening the totalizing grip of the traditional, means-end rationality on Western culture. Such intent was to be pursued by means of the distortion and decomposition of traditional aesthetics, the subversion of social norms and the evocation of aesthetical possibilities non compatible with the sensory perceptions that humans can natively derive from the world commonly labelled as 'actual'. The artistic production of Dadaism challenged traditional representational principles, and thus (metonymically) the way the world was commonly understood through the mindset of the mechanistic sciences. The general insubordination of modernistic movements to the univocality and stability of the Western tradition of thought as well as the use of artistic expression as a catalyst of social change was explicitly avowed in their manifestoes[vii]. Dadaism's rebelliousness to social and artistic convention was a precursor and an inspiration to radical avant-garde currents such as Surrealism[viii] in the fine arts or the current of Expressionism most particularly in cinema (Chipp, 1968, 394). Theories on intellectual liberation via aesthetical appreciation arguably played a vital role in the social agendas of several strands of the artistic *avant-gardes* of the twentieth century and left a conspicuous trace in both the philosophical and literary production of the same period.

Philosophers and aesthetics scholars of the last century such as Hans Robert Jauss, a pupil of Heidegger's, Jacques Ellul or the later Heidegger himself, explicitly structured their work on technology as a reaction to the commoditisation and alienation of human existence that they observed in the mechanization of work, of transportation and in the general diffusion of technological mediation in social processes. From their technologically deterministic perspectives, the progressive objectification of the world appeared as the gloomy destiny of humankind. As a possible alternative to the technological mindset, they often proposed the free encounter with art as a means to achieve liberation from the canons and limitations of our system of thought. Albeit passively experienced, traditional forms of artistic expression were considered to hold sufficient rhetorical power to detach people from their everyday and functional existence and lead them into a freer realm of sensory appreciation (Panza, 2002).

Similarly, the central theme of the literary work of Jorge Luis Borges reflected on the capabilities of literature for suggesting imaginative alternative ways to understand, categorize and imagine worlds. As can be surmised by the title of his most critically acclaimed book, *Fictions* is a collection of non-interactive, literary infringements of traditional metaphysical conventions. His novels could be described, using the author's own words in *Tlön, Uqbar and Orbis Tertius*, as "[…][t]he conjunction of a mirror and an encyclopedia": a deliberate and deceptive use of the possibility of the textual medium not only to embed re-presentations of the world, but also for abstracting, replicating and distorting such representations. In other words, text, as well as any traditional form of mediation, can not only describe[ix] what is actual, but can fictionally – and thus subjectively – evoke what could be possible.

According to the postphenomenological approach adopted by this study, the limitations inherent to text as well as any other representational medium would disqualify them as instruments capable of influencing and altering human kinds of ontologies. The reason for this exclusion lies in the very postphenomenological understanding of what an ontology is: the rationalization of the mutually constitutive relationship between a being and a world[x]. What I am arguing here is that the experiences and sensations evoked by representational forms of mediation do not amount to a world. This is due to the fact that the beings represented in traditional media are neither characterized by the objective perceivability nor by their capability for establishing stable, interactive relationships with the subject engaged with the various media. Not having the possibility to effectively materialize worlds, traditional media cannot be expected to ever engage a subject at the ontological level. The subjective and representational horizon of traditional mediation defines, instead, the boundary of the concept of 'fiction'. Heidegger manifested the same understanding of the specificity of representational media in the opening passages of 'The Question Concerning Technology', where he described how human beings are entranced by films and radio shows and are given "the illusion of a world that is no world." (Heidegger in Verbeek, 2005, 59)

Having observed how, in general, traditional forms of mediation cannot be considered as heuristic instruments, it is important to also mention the fact that less conventional and more flexible uses of the textual medium were attempted and experimented with in the past century. For instance combinatory literature and gamebooks managed to not only overcome the traditional limitations of the textual medium such as those of linearity and stability of textual compositions, but pioneered the exploration of the boundaries of the simulational mindset. Such literary experiments are often cited as tangible expressions of a society whose values, whose needs and whose technological environment were inexorably changing.

In his 2003 essay *Simulation vs. Narration: Introduction to Ludology*, Uruguayan scholar Gonzalo Frasca observed that the full sway of simulation has been unleashed from its technical (textual-

representational) limitations with the invention of the computer (Frasca, 2003, 2). Computers grant access to the materialization of virtual worlds characterized by the possibility of persistently perceiving and interacting with its beings. Their ontological stability as well as the level of detail of the aesthetical stimuli they offer in comparison to traditional media have often been embraced by theorists and philosophers as crucial factors in what needs to be recognized as a full-fledged cultural shift. Michael Heim, for example, openly identified the advent of interactive digital media as responsible for a decisive ontological event in the history of philosophy. According to Heim, this is due to the fact that the interaction with digitally simulated worlds involves the whole spectrum of the mutually constitutive processes through which humans relate to worlds instead of being bound to subjective evoking by means of fictional representations[xi] (Heim, 1994, xiii). This shift could perhaps be encapsulated, utilizing a Heideggerian lexicon, as the transition between media that give the 'illusion of worlds' to media that give 'access to worlds'.

Frasca further added, in accordance with Heim's perspective, that with the advent and the cultural penetration of the digital medium, the interactive possibilities of simulation increased immensely and that the encounter between a simulative mindset and digital media opened a whole new horizon of possibilities for mankind (Frasca, 2003). The interaction with virtual worlds is a particularly revelatory example of the ways in which the digital medium can grant access to a form of transcendence of the experiential and thought possibilities traditionally (pre-digitally) affordable for humans. From this standpoint, I advocate the need for a broader and more basic perspective for digital media studies as well as game studies, a perspective capable of understanding digital technology as inextricably and interdependently conjoined with human thought. In particular, it is my belief that this new standpoint necessarily calls for an approach which is deeply seated in the ways in which human beings structure their relationships with worlds and beings. Consequently and as already outlined, this research will explore the possibilities of the digital medium for overcoming[xii] traditional (pre-digital) human kinds of ontologies from a postphenomenological perspective.

Borrowing Herbert Marcuse's words in 1964 *One-Dimensional Man*, traditional media are recognized as extending and insuring the prevailing *Lebenswelt* without altering its existential structure, without envisaging a new mode of 'seeing' (originally in relation to the scientific method; Marcuse, 1991, 165). What I am arguing here is that, differently from traditional media (relying on a passive absorption of content and on subjective imagination), interactive digital media can objectify ontological alternatives to the status quo. From the postphenomenological approach to philosophy of technology proposed by this study, computers can hence be understood as ontological instruments. The virtual worlds that can be encountered and experienced in video games and simulations will consequently be treated in the subsequent sections as the (poetic) contexts where technology and art can return to the semantic unity of their ancient Greek origin.

3. HOW TO PHILOSOPHIZE WITH A DIGITAL HAMMER

In explaining the difficulties in the articulation of an objective physicalist approach to the philosophy of mind, Thomas Nagel argued in his 1974 essay *What Is it Like to Be a Bat?* that human subjectivity is confined within the experience of what it is like to be human beings. Nagel started from the assumption that empirical observation provides the basic material for the ways in which humans organize their knowledge of the world as well as for their capability to imagine and to adopt alternative world-views. On this basis, he maintained that it is impossible to widen or alter the unique way human beings establish their relationship with the world and are capable of conceiving alternatives to them uniquely by resorting to the subjective representation of phenomena.

According to Nagel, imagination can only suggest what it would be for a human subject to behave how a bat behaves, but that is not the question that his essay is trying to answer. Nagel wanted to know if humans could be capable of knowing what it is like for a *bat* to be a bat. From the very formulation of Nagel's question, it is clear that the problem cannot find a satisfactory answer within the context of the capabilities of the human mind to abstract and imagine. As a consequence of what was observed, Nagel purported that only the experiences that have the quality of being objective can be utilized in a physicalistic model.

What Nagel means, in very practical terms, is that, in trying to understand what it is like to be a bat, it does not help to:

> "[…] imagine to have webbing on one's arms, which enables one to fly around at dusk and dawn catching insects in one's mouth; that one has very poor vision, and perceives the surrounding world by a system of reflected high-frequency sound signals; and that one spends the day hanging upside down by one's feet in an attic." (Nagel, 1974)

Setting up his argument, Nagel observed that the ways humans understand the world and relate with it have an unavoidably subjective character. According to Nagel, such subjective quality implies that no world-view can be objectified in the truth of propositions describable in human language (Nagel, 1974). The impossibility to complete the objectification of alternative ontologies is not confined to perceptually alien cases like those of a bat, a whale or a mosquito, but it is commonly experienced even between one human being and another.

Having recognized that the answer to his question cannot be handled objectively within the limitation of human kinds of ontologies as it is, and cannot therefore be elaborated in human language, Nagel decided to conclude his essay with a speculative proposal which temporarily set aside the philosophically problematic relationship between the mind and the brain. He envisaged the hypothetical possibility of closing the gap between subjective and objective knowledge from another direction than from human imagination. What Nagel hypothetically proposed is the creation of an alternative phenomenology that is not based on imagination, that is to say, not based on subjective representations[xiii].

> "Though presumably it would not capture everything, its goal would be to describe, at least in part, the subjective character of experiences in a form comprehensible to beings incapable of having those experiences." (Nagel, 1974)

What Is it Like to Be a Bat? was written before the social diffusion of computers, and its insights and suggestions could not anticipate the consequences and the opportunities offered by the advent of a technology capable of materially disclosing interactive and persistent experiences of virtual worlds as well as virtual alternatives to the 'self'.

Particularly obvious examples of how objective, alternative phenomenologies can be encountered and experienced through the mediation of computers are video games. *Miegakure*, for instance, is an experimental puzzle-platformer video game released in 2010 by Marc ten Bosch. Miegakure openly aims at offering its players an objective, alternative phenomenology. Ludologically, the game challenges the player to actively solve spatial puzzles in four spatial dimensions[xiv]. Commenting on

the unworldly[xv] qualities of *Miegakure*, award-winning game designer Jonathan Blow stated the following in an interview with *The Atlantic*:

> "It's a valuable contribution to human experience, right? […] The games I like are ones that have shown me something I wouldn't otherwise have seen, and Marc's creating an experience that would not have been possible to have, had he not made it." (Taylor Clark, *The Most Dangerous Gamer*, May 2012 issue. Also available at http://www.theatlantic.com/magazine/archive/2012/05/the-most-dangerous-gamer/8928/)

Another didascalic example of a deliberately uncanny video-ludic phenomenology is afforded by the *Independent Games Festival* 2010 student showcase entry *Haerfest*, a video game that was developed under my supervision at the *International Game Architecture and Design* program at NHTV Breda University of Applied Sciences (the Netherlands) (Technically Finished, 2009). Similarly to *Miegakure*, *Haerfest* offers the interactive experience of a distinctively extraordinary phenomenology: in both pieces of software, the players willingly engage experiences which are not in line with the way human beings customarily relate to the world in their everyday life. In the specific case of *Haerfest*, the game was developed as a digital formulation of the questions posed in Nagel's 1974 essay *What Is it Like to Be a Bat?* Both in Nagel's essay and in our experimental video game, the choice of a bat was motivated by the fact that it is a creature that is relatively close to the human animal from a phylogenetic point of view (mammal, chordate) and yet, at the same time, is endowed with a cognitive equipment which is deeply different from the one humans can utilize in their everyday life. It is for this reason that Nagel referred to being a bat as an example of 'a profoundly inhuman subjectivity'.

Accepting Nagel's standpoint according to which there is no way of knowing or reproducing the real consciousness of a bat, *Haerfest* tries to objectify part of the subjective character of what it is like to be a bat for a bat. The game allows the player to experience having very limited eyesight, flying by flapping flabby wings and being able to perceive volumes via the discontinuous input of a sonar system (see Figure 2)[xvi]. The design objective of materializing an alien phenomenology in the least opaque of ways was pursued in *Haerfest* with the use of the first-person perspective and the diegetic quality of the in-game music and sound effects.

Figure 2: A screenshot of *Technically Finished*'s 2009 video game *Haerfest*, showing a first-person simulation of the combination of a bat's short eyesight and one instance of its echolocation system (used with permission).

In the conclusive passages of Nagel's essay, he contended that humans have no way yet of objectifying an alien world-view and, as a consequence, no way yet of knowing what such experience is like from the point of view of neither phenomenology nor neuroscience. On top of that, Nagel further observed, such experiences would not be anything like the experiences of those animals without the possibility of fundamentally altering human subjectivity; such a shift would, however, inevitably require a drastic modification of human biology. For the reasons advanced in *What Is it Like to Be a Bat?* it should be apparent that *Haerfest* cannot offer a phenomenologically defensible account of the experience of what it would be for a bat to be a bat. *Haerfest* is a technological artefact, the materialization of a world that was designed by humans to be engaged by humans and that is mediated by a machine characterized by logics which are simplifications, extensions, distortions and repetitions of certain aspects of a human kind of sensibility and cognition[xvii].

Haerfest grants access to a world to be explored with a particularly non-human system of perception that, although unverifiable in its correspondence to that of actual bats, is incongruous with the way people ordinarily relate to the actual world. Even if contemporary virtual technology cannot yet objectively reproduce the subjectivity of a bat, it does offer ways to reveal previously inaccessible, modal aspects of the way humans can relate to reality. The crucial point in this understanding of the ontological relevance and cultural role of interactive digital media content is that computers prompt humans to apply their perceptive, cognitive and operational equipment to virtual contexts that could not be encountered in their ordinary life. In synthesis, by materializing virtual worlds and granting

the possibility to establish stable cognitive and interactive relationships with them, computers effectively function as heuristic instruments.

Digitally mediated simulations do not, in fact, reveal new worlds fictionally, that is to say through forms of mediation which require the complementation of subjective interpretation and imagination, but they effectively and objectively open new experiential, phenomenological horizons. They disclose ways to experience worlds that are alternative and often in contrast with the stable, scientific understanding of time, space, properties, causation, *et cetera* that human beings structured in their everyday relationships with the world labelled as 'actual' and operate within such worlds.

In particular – loosely following McLuhan's intuitions and theoretical insights – I understand the interaction with digitally mediated simulations as characteristically offering affordances to extend and fragment the interactive and cognitive capabilities of humans beyond what is 'actually present' and towards what is 'virtually possible'. These dynamics are anthropological on the basis that they have both a biological dimension and a cultural one and, I argue, they both ensue from the possibilities to afford digital experiences of interactive worlds which are actual "not in fact, but in effect." (Heim, 1994, 109 – 110). Virtual worlds do not, in fact, fictionally present new phenomenological and ontological possibilities, but they pragmatically open new persistent and interactive horizons of thought and ways to understand time, space, properties, causation, *et cetera* that are alternative to the ones through which human beings structure their everyday relationships with the world labelled as 'actual'. It is precisely in this sense that I propose a projective understanding of digitally mediated simulations as socio-cultural instruments that characteristically offer the interactive affordances for extending and fragmenting human kinds of ontologies. This claim applies to any digital experience, from the interaction with a digital text-editor to the often explicitly unworldly qualities of things and environment that players can use and experience when engaged with video games. It is particularly relevant to observe here that, in the specific case of video games, the laws of physics as well as established metaphysical assumptions are not only deliberately defied, but are increasingly often interactive and modifiable elements of the activity of 'play' themselves.

The video game *EXP* (a game-concept of mine, developed under my supervision at the *International Game Architecture and Design* program) is another evident example of the contemporary game-design tendency to pursue innovation via insubordination towards traditional, pre-digital, world-views (Team UBIK 2011). *EXP*, inspired by Philip K. Dick's 1969 short story *The Electric Ant*, materializes the philosophical possibility, proposed by the American author, of understanding artificial ontologies as formal, modal constructs. During gameplay, the player can in fact interactively experience the progressive deconstruction and the eventual removal of video game elements both aesthetically and from the point of view of game mechanics. Progressing in the game, its very graphical style regresses from figurative, to symbolic, to completely abstract. A less-than-optimal performance in *EXP* leads to the degrading of the game's graphical detail; a few minutes into the game, the hint system abandons the player. Soon after the vanishing of the player-support system, the score system does the same, removing all quantitative feedback from the game (and consequently its meaning from a ludological perspective).

In *The Electric Ant*, the fictional novel that inspired the video game *EXP*, the protagonist Garson Poole is shocked to discover that he is not a human being, but an android. Poole owes this revelation to having found a cavity in his chest where, among other pieces of hardware, a 'reality tape' is rolling. The tape, Poole discovers by tampering with it, feeds his mechanical consciousness with all his worldly perceptions: it is his phenomenology, deterministically formalized in a plastic strip. In the

video game *EXP* the player is exposed to a persistent and interactive world whose phenomenology, together with that of Poole's own experimentation, undergoes an objective process of degradation and subtraction that eventually renders the very formal structure of the game meaningless (see figure 3).

Figure 3: Three images taken form screenshots of the PC game EXP, showing three different moments in the progress – and degradation – of the gameplay experience (used with permission).

Unlike *Haerfest*, the video game *EXP*, does not directly tackle the question of overcoming the cognitive and interactive horizons of human kinds of subjectivities. Similarly to *Haerfest*, however, it discloses worlds which allow the player to objectively explore philosophical arguments, notions and possibilities. Both *Haerfest* and *EXP* practically exemplify how the interactive experiences of virtual ontologies are, in both their constructive and experiential aspects, viable experimental instruments for the development of philosophical thought as well as its diffusion.

In the context of interactive simulations with a philosophical agenda, I consider it interesting to also examine *Gua-Le-Ni; or, The Horrendous Parade*, an action-puzzle video game that I designed in 2011 and was developed together with the Italian company *Double Jungle*. *Gua-Le-Ni* takes place on the wooden desk of an old, befuddled British taxonomist. On his desk, lies a fantastic book: a bestiary populated by finely drawn creatures. Consistently with monsters of myths and folklores, *Gua-Le-Ni*'s impossible beasts are combinations of parts of actual animals. To understand what I mean, it might help to think of fantastic creatures like the sphinx, the Minotaur, different chimeras or *South Park*'s *Manbearpig*.

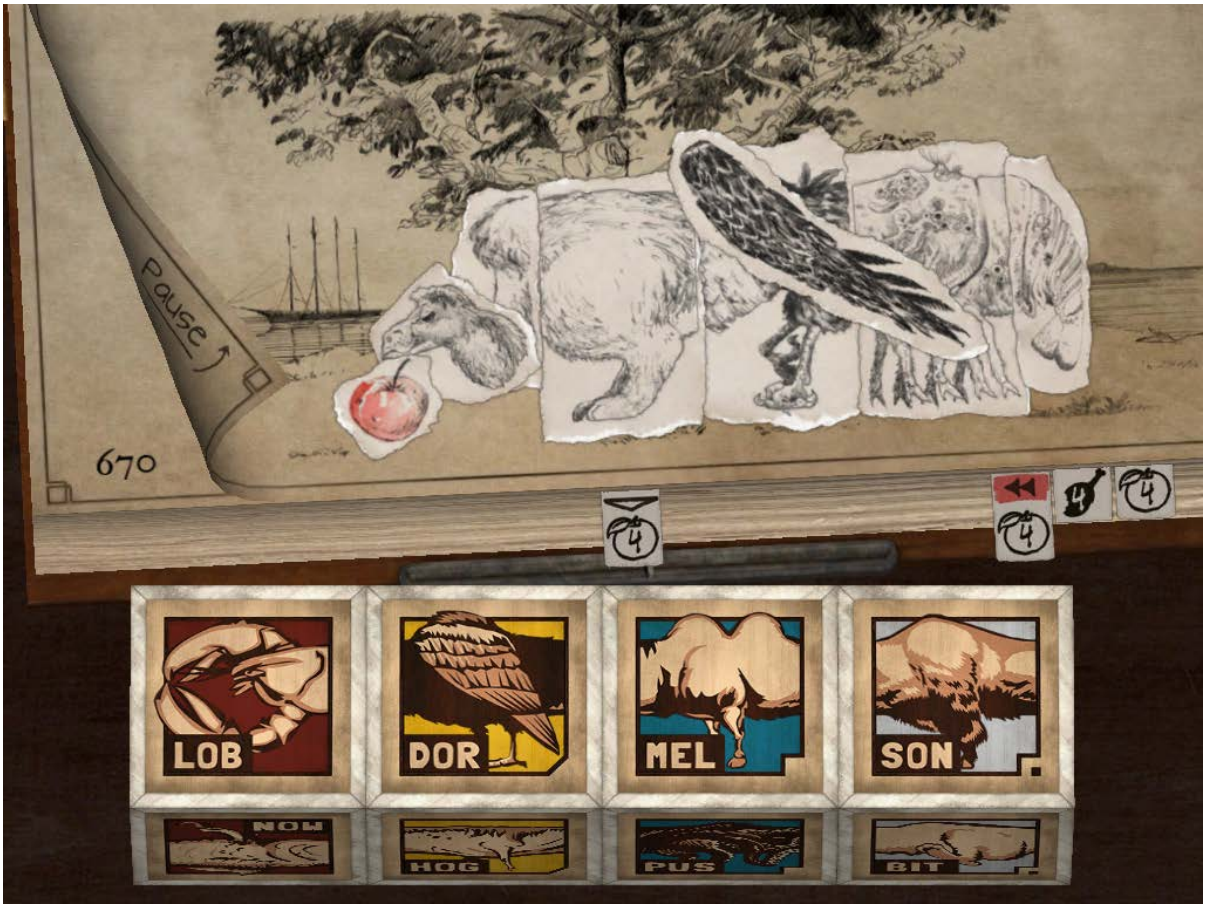

Figure 4: Feeding the beasts in *Gua-Le-Ni; or, The Horrendous Parade* does not only temporarily stop their relentless stampeding, but can also modify the beasts' composition, quell their acceleration or increase their value in terms of points (pages) awarded upon its correct cataloguing.

In *Gua-Le-Ni*, paper beasts walk across the illustrations of an old bestiary. The paper creature shown in figure 4 is a CA-BIT-DOR-STER: a four-module beast with the head of a camel, one body, part of a rabbit, another of a condor, and concluded by a lobster tail. From the player's perspective, the main goal of *Gua-Le-Ni* is to recognize the components of the animal monstrosities and their relative order before one of them manages to flee from the page (which is the 'game over' condition). Mentored by the old taxonomist, the players pursue this purpose by actively manipulating (rotating, moving and spinning) toy-cubes with pictures of animal heads and bodies printed on the cubes' faces. A paper beast is correctly recognized and thus prevented from escaping the bestiary – its possibility for being 'known' – when the player manages to match the illustrations on the top faces of the taxonomic cubes with the paper beast currently in play.

The philosophical endeavour that will be presented in this article was pursued embracing virtual worlds not only as inherent factors of cultural change, but also as media that can present experiences and notions in ways which are alternative to, and in some contexts more desirable than, the abstraction and inflexibility that characterize textual information. During the design process, I was seduced by the irony of proposing a critical angle to the dominant and largely unquestioned textual framing of the philosophical discourse, presenting my criticism in the form of a (digital) book.

From a game-design standpoint, the concept of *Gua-Le-Ni* was inspired by David Hume's philosophical understanding of what a 'complex idea' is, as well as by the very example he used to elucidate the concept in his 1738 *A Treatise of Human Nature* (book I, part IV, section VI: *On Personal Identity*).. In Hume's vision, most people possess the mental concept of a Pegasus (Hume, 1748). This is patently due, according to the Scottish philosopher to the fact that it is common for human beings to be exposed to Greek mythology. This is ostensibly also the case in the present century, where the Pegasus can still be encountered in books as well as in modern (and often syncretistic) remediations of its folklore. In general, the Pegasus is presented as a divine horse that could fly using its legendary eagle wings and in David Hume's work, it is used as a paradigm of something that cannot be encountered by humans in the world they share as biological creatures and yet is thinkable. Nobody can truthfully claim to have seen a Pegasus, to have ridden, smelled or touched it, and yet the Pegasus is an idea that humans can fantasize of, discuss, write legends about, *et cetera*.

According to Hume, the idea of a Pegasus does not fall under the category of simple ideas, which is to say ideas that can be simply caused by immediate sensory 'impressions' of the objects. The Pegasus must, therefore, be recognized as a complex idea: a mental combination of elements and properties of which the human mind had previous experience and eventually creatively combined into a new idea. The example of the Pegasus also helps to reinforce one of the assumptions at the core of this study: the idea that traditional ontologies are essentially theoretical elaborations of empirical data which are confined by the human sensory and intellectual possibilities.

By means of fantastic beasts of the same combinatorial nature as Hume's Pegasus, *Gua-Le-Ni; or, The Horrendous Parade* asks the players to twist the creative capabilities described in *A Treatise of Human Nature* on their heads and use them as game mechanics: impossible paper beasts will parade across the screen (the page of a fantastic bestiary) only to be recognized as combinations of parts of existing animals. In other words, the main game mechanic of *Gua-Le-Ni; or, The Horrendous Parade* is a playful and interactive material interpretation of the Humean notion of 'complex ideas'.

What I am arguing both through my games as well as my more conventional academic work is that by materializing philosophical concepts, hypotheses and alternatives in interactive worlds, computers are decisively contributing to the raise of a new humanism. This new, digital humanism does not uniquely develop and spread by means of subjective representations, but also employs the experiences of objective and persistent virtual worlds. The role of computers in the outlined 'cultural shift' is specifically recognized as that of disclosing manipulable virtual worlds, the experience of which extends and fragments the human capabilities for relating to reality in ways which are no longer limited to the 'actually potential' but, as already mentioned, extend to the 'virtually possible'. This philosophical perspective was openly discussed in several reviews, conferences and interviews about *Gua-Le-Ni; or, The Horrendous Parade*. The Italian independent developers' community website www.indievault.it, for instance, quoted a passage of a discussion with them about this point. In that occasion I explained that

> "[i]f one learns how to play the game, one implicitly understood Hume's essay, regardless one aspired to do so or not. The player does not need to use her imagination or her interpretative capabilities in accessing those concepts of Hume's precisely because the game offers that portion of his thought in the form of an objectively present, interactive allegory." (http://www.indievault.it/2011/11/23/gua-le-ni-una-perla-made-in-italy-per-ipad/ – translated from Italian)

I believe that my experimental game design titles demonstrate that the versatility and the programmability of the digital platform can already foster the development of novel approaches to old philosophical problems as well as the rise of entirely new ones, for example those concerning identity, agency and ethics in relation to artificial intelligence or telepresence. On these premises, it is expectable that, facilitated by the increase of computer literacy, the growing accessibility of video game development tools as well as the progressive diffusion of digital media in social practices, more philosophical questions will arise and will be tackled specifically within virtual worlds. From the same perspective, it is also likely that the new generations of philosophers will more and more frequently develop, test and distribute their ideas in the form of interactive digital media content. I propose to call this new field of applied philosophy 'augmented ontology'.

4. CONCLUSION

Whereas the mechanistic technologies (which are what the later Heidegger mainly focuses on) reflect the purpose of the rational domination of a world which is objectified and reduced to a system of usable resources, the informationistic sciences pursue the creation of new worlds. "These sciences", wrote Jos de Mul, "transform the world into a field of virtual possibilities. Beings are regarded as recombinatorial information. […] From a *thrown* project, *Dasein* (the specific name Heidegger gives to the characteristic human way of being in the world) seems increasingly to become a thrown *project*." (De Mul, 2010, 153) Discussing the social impact of digital technology from an analogue perspective, Vilém Flusser wrote that:

> "[W]e begin to liberate ourselves from the tyranny of an alleged reality. The slavish attitude, with which we, as a subject, approach objective reality in order to master it, has to give in to a new attitude, in which we intervene in the fields of possibilities in- and outside us, in order to intentionally realize some of these possibilities. From this perspective, the new technology means that we are starting to raise ourselves from a subjectivity into a projectivity." (Flusser, 1992, 25)

An approach to the digital medium which combines a postphenomenological understanding of technology with media philosophy is likely to grant twenty-first century thinkers and designers unprecedented freedom and flexibility for hands-on experimentation. The expressive and interactive possibilities of the digital medium already transcend many of the limitations and the effects that its traditional association of thought with text had on mental processes. Since Plato, in fact, the history of philosophy has been the history of written philosophy (Carr, 2010). One of the first advocates for a critical attitude towards the exclusive and unquestioned association between thinking and writing was the Austrian philosopher Ludwig Wittgenstein who, according to Hungarian scholar Kristóf J. Nyíri, was almost addicted to going to the movies and often used film to illustrate his philosophical points (De Mul, 2007). Apart from a few remarkable exceptions, among which Wittgenstein's *Tractatus Logico-Philosophicus* (1929) and Jacques Derrida's *Glas* (1974), philosophical books did not seek to support their visions and arguments through the way their texts were spatially designed and/or structured from a material point of view.

Motivated by a critical standpoint that has evident affinities with the one outlined above, American philosopher and game designer Ian Bogost went as far as accusing the exclusivity of the practice of

writing to be detrimental for philosophy and scholarly practice in general. In his 2012 book *Alien Phenomenology*, Bogost emphatically voiced his concerns according to which

> "[i]t is not because writing breaks from its origins as Plato would have it, but because it is *only one form* of being. The long-standing assumption that we relate to the world only through language is a particularly fetid, if still bafflingly popular, opinion." (Bogost, 2012, 90)

When discussing the digital medium - or rather when discussing its artistic and cultural merits and advantages in comparison with traditional expressive forms - it is not uncommon to observe that the various analyses tend to polarize around the specific affordances of computers, which is to say on the way they disclose experiences by framing information and afford interactions. That was the way the topic of digital mediation was introduced at the beginning of this paper or the way in which an artistic perspective on game development commonly labelled 'proceduralism' supports its claims about the specificity of the video ludic medium. According to proceduralists, in fact, the way video games can allow for the emergence of meaningful play fundamentally resides in the qualities and structure of their in-game affordances (game mechanics). Specifically, from a proceduralist perspective, meaningful play is a derivation of the game mechanics in the sense that the exchanges between the computer and the player or among players via the machine arises from the players' action within the logical-aesthetical system that the mechanics support and structure. Expressed more simply, meaning in video games does not emerge from DECODING media content, as is the case of textual information, but from acting within the medium: from DOING.

Working with (and within) the flexible and programmable worlds afforded by computers grants philosophers the possibility to objectively craft, experience and divulge their claims within simulated environments. Through the interactive mediation of digital simulations, their work is no longer experienced restrictively through the subjective filters of the individual capabilities for abstraction and imagination. From the point of view of the recipient of a digitally simulated philosophical claim, I believe that the fact the medium allows and encourages *active doing* within its persistent virtual worlds offers unique cognitive opportunities. Gaining access to specific interactive possibilities within persistent, objectively perceivable and intelligibly interactive worlds, the 'players' of alternative phenomenologies have the opportunity of dialectically negotiating and internalizing notions and hypotheses that are materially presented to them. In this context, the 'player' is – to an extent – co-author of the virtually materialized philosophical arguments.

If, on the basis of what was observed, we are ready to accept that philosophy and academia could benefit from experimenting with forms of mediation which are not exclusively concerned with the communication and production of textual information, it would be crucial to understand and assess the expressive potential of interactive digital media. I believe that any exploration of the expressive and epistemological limits of digitally-augmented ontologies should start with focusing on the qualities and limitations of the mediator itself: the 'linguistic' and simulative affordances of the digital medium. In a very similar fashion, Sebastian Möring commenced his analysis of metaphorism as the core process at the base of the practice of simulation with the following observation: according to Möring, the message that is expressed through a simulation "does not only depend on the characteristics of the available model but also on its implementability into a simulator. The materiality of the medium which is used to run the simulation does have an effect on the aspects which are implementable and might reduce these elements again." (Möring, 2012, 9)

The interpretation offered by Möring patently aligns with the understanding of the core affordances of the digital medium provided by several influential academics. In that respect, I believe it suffices at this point to cite Lev Manovich who, in his 2001 book *The Language of New Media*, explained that the digital medium is – in its logical core – nothing else but a machine sustaining and representing autonomous or semi-autonomous logical systems capable of manipulating modular information. The endlessly configurable logics of computers systems is largely incongruent with the causal, univocal and essentially stable way that humans traditionally experienced and understood the world through the mediation of their senses (Manovich, 2001). Similarly, Ian Bogost's stated in his preface to his 2007 book *Persuasive Games: the expressive power of video-game* that the specific type of persuasion which is inherent to the digital medium "is tied to the core affordances of the computer: computers run processes, they execute calculations and rule-based symbolic manipulations." (Bogost, 2007, ix)

In the video game examples mentioned in this paper, the digital medium emerged as particularly suitable for materializing world-views which suggest – or even openly foster – the combinatorial triviality of any form of meaning or message. This is patently imputable to the combinatorial, modular, procedure-based essence of the way in which computers (the materialization of a specific kind of human rationality) organize, store and manipulate information. Anything that is experienced through a digital simulation will inevitably be filtered through the ontological 'core' of digital computation. The affordances of computers as well as the interactive possibilities that they disclose can thus be understood both as new rhetorical instruments and as mediators whose very modularity, procedurality and interactivity threaten to distort and trivialize any intended meaning or message originally intended by media content designers.

In a recent interview for the *New Statesman*, independent game developers Jason Rohrer (author of celebrated experimental games such as *Passage* and *The Castle Doctrine*) and Merritt Kopas (designer and creator of *Lim*, a free, web-based game about the tension of trying to meet society's expectations) expressed an analogue intuition about the possibilities and the risks of expressing through digital simulations:

> "I think that systems have a tendency to get away from us," says Kopas. "We intend to portray or produce one thing, but the systems we're creating seem to resist or reshape our intents." Even Rohrer, with years of programming experience (this game is his seventeenth), has to take responsibility when things go wrong. "As a designer, I'm trying to build the tightest system that I can build. I don't want there to be those system leaks which allow bizarre readings, and involve the procedural rhetoric effectively falling off the rails and going who knows where." (http://www.newstatesman.com/voices/2013/02/political-video-game)

From this perspective, Marshall McLuhan's gnomic observation according to which 'the medium is the message' (the interpretation according to which the message of any medium or technology is "the change of scale or pace or pattern that it introduces in human affairs") appears particularly accurate (McLuhan, 1994, 8). The analysis of the mediation of thought via interactive virtual worlds also appears to be a peculiarly fruitful and interesting field to explore academically from a postphenomenological point of you. In digital worlds, existential phenomenological hypotheses can be factually experimented with and new questions concerning the nature of human experience can

arise. Ihde phrased a similar belief in *Experimental Phenomenology*, writing that "[w]ithout entering into the doing, the basic thrust and import of phenomenology is likely to be misunderstood at the least or missed at the most." (Ihde, 1986, 14) It is in this sense that, I believe, society could benefit from utilizing gameplay beyond what Paolo Pedercini calls "the dictatorship of entertainment" (cfr. www.molleindustria.org).

The material activity of 'doing philosophy' through which I propose to use gameplay as a cultural instrument has definite analogies with the concept of 'building' as an academic practice in the connotation introduced by Davis Baird in his 2004 book *Things Knowledge: A Philosophy of Scientific Instruments*. According to Baird's view, 'building' – doing, constructing as a heuristic practice – offers an opportunity

> "to correct the discursive and linguistic bias of the humanities. According to this view, we should be open to communicating scholarship through artifacts, whether digital or not. It implies that print is, indeed, ill equipped to deal with entire classes of knowledge that are presumably germane to humanistic inquiry." (Ramsay and Rockwell in Gold, 2012, 78)

Baird's notion of 'building' has evident affinities with the more recent idea of 'carpentry' explained by Bogost in his previously mentioned *Alien Phenomenology*. Blending the perspectives of Graham Harman and Alphonso Lingis, Bogost defined 'carpentry' as the "practice of constructing artefacts as a philosophical practice" which "entails making things that explain how things make their world." (Bogost, 2012, 93) In two aspects, I believe his interpretation of 'carpentry' is affine to the approach I am proposing here:

1. its openness in relation to non-textual options for the mediation of philosophical concepts. Both for *Alien Phenomenology* and for this study, this proposition is a reaction to the exclusivity of text and its largely unquestioned effects and limitations on the very activities of thinking and disseminating philosophical notions and hypotheses.

2. its vision according to which the very crafting and framing of thought in a medium which is not necessarily concerned with the communication and production of semiotic meaning, is itself a deeply philosophical activity.

In *Alien Phenomenology*, Bogost tackles what I believe is a very interesting question: how can mankind perform ontological carpentry without having godly powers and creative abilities? "Through the practice of building a video game engine" was the first answer to this question proposed by the author. A game engine is the software framework that provides basic, commonly needed tools for the construction of interactive, virtual worlds. Given his object-oriented approach, Bogost willingly disregarded the philosophical merits of the contents that the different forms of 'carpentry' can channel in terms of meaning. A thing-oriented philosophy, in fact, deliberately recoils from focusing on the experiences that the things themselves might disclose for their potential observers, users, consumers, players, *et cetera*.

Differently from Bogost's approach, the postphenomenological perspective I decided to adopt also incorporates the qualities and the ontological effects that proceed from having experienced the interaction with a philosophical artefact. In other words, my proposition is to embrace also what

such experiences disclose and explain in terms of ontology, not just how they do it. Going back to the instance of philosophical carpentry within video games, I argue that not only the tools and qualities afforded by game engines can be understood as having ontological repercussions, but so does the specific ludological structure of the game: the way it structures the relationship between players, objectives, resources, the way in which it provides aesthetical feedback, the way in which the logical structure of the system is metaphorized and communicated, *et cetera*. Consequently, as far as 'augmented ontology' is concerned, *doing philosophy* is not trivially a matter of crafting thought in interactive, non-textual media, but can also be philosophically relevant in terms of the qualities of its contents.

A very strong contention to the primacy or the advantages of a written approach to philosophy was presented as early as the fourth century BC. In the Socratic dialogue *Phaedrus*, in fact, Socrates brings to the attention of his Athenian interlocutor – Phaedrus – to the various shortcomings of the written medium which, at the time when *Phaedrus* was written, was novel and controversial in Greece. According to Socrates, written argumentation – unlike the dialogic development of a topic – cannot be adapted and shaped to the background and the capabilities of the people to which it is addressed to and develops in a unidirectional and non-flexible way. Far from being a neutral way of exchanging information, writing has inevitable channelling and constraining effects on thought. Analogue to the way video games might not be suitable for presenting intricate and abstract concepts, books cannot give the reader either agency or the possibility to negotiate with the objectified thought they mediate. They only allow for hermeneutical forms of freedom. Moreover, books are not particularly good at presenting spatial and interactive situations whereas digital simulations can reproduce them with relative ease and precision.

A common point of criticism often raised in the present days against the philosophical employment of interactive digital media contends that books are (and always will be) needed and desirable because written words have the capacity to symbolize and organize complicated arguments. This is something that simple simulations cannot do. My perspective, however, does not advocate for the abandonment of written text and does not advance the claim that digital media are (or are going to be) the ultimate philosophical instruments.

I believe that a complete postphenomenological analysis of the expressive potential and the epistemological affordances of the digital medium is beyond the scope of this article. What I am concerned with in this section of my text is to clarify that it would be to ignore the intrinsic worth of the written mediation of thought, to believe that virtual worlds should substitute written text in any sort of philosophical enterprise, and within all branches of philosophy. The same critical observation could, however, be directed towards the generic dismissal of simulations and video games as never having the possibility to be philosophically viable media. In my opinion there is no reason why producers and critics of cultural production should not meaningfully embrace a vaster and more compromising media horizon to develop and divulge ideas. This is even more evident and cogent, I believe, in the age of interactive digital media and human enhancement.

I would like to conclude my proposition for 'augmented ontology' as a novel philosophical context with a cautionary remark borrowed from the field of media philosophy. In his 1964 book *Understanding Media: The Extensions of Man*, Marshall McLuhan observed that technology not only provides advantageous enhancements of the human mental and bodily capabilities, but that it is also a form of self-amputation. In other words, new ways of establishing relationships with reality through media necessarily entail a balance between the increase in acuity of certain cognitive functions and the desensitization of others (McLuhan, 1964). With these effects in mind, the

embedding of video games and computer simulations in social practices (philosophy being one of them) might best be pursued with the awareness that, like any other form of mediation, they disclose reality in specific ways and that such ways are always inherently both revealing and concealing.

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[i] I deem it necessary to specify that I am not utilizing the term 'humanism' in its common connotation, that is to say the one that emerged from the encounter between the Roman civilization and the late Hellenistic culture. According to this conventional acceptation, 'humanism' indicates the realization of the human essence through "scholarship and training in good conduct" (Heidegger, 1998, 244). However, Heidegger observed, this understanding of humanism does not truly cater to the original essence of human beings, but rather "is determined with regard to an already established interpretation of nature, history, world, and […] beings as a whole." (Heidegger, 1998, 245) The German thinker found this way of embracing humanism reductive: a by-product of Western metaphysics. As Heidegger himself specified in his 1949 essay *Letter on 'Humanism'*, his opposition to the traditional acceptation of the term 'humanism' does not advocate for the 'inhuman' or a return to the 'barbaric', but stems instead from the belief that the 'humanism' can only be properly understood and restored in culture as more original way of meditating and caring for humanity and understanding its relationship with Being.

[ii] In Martin Heidegger's 1927 *Being and Time*, the term 'projectivity' indicates the way a Being opens to the world in terms of its possibilities of being (Heidegger, 1962, 184 – 185, BT 145). Inspired by Heidegger's and Vilem Flusser's work in the field of philosophy of technology as well as Helmuth Plessner's anthropological position presented in his 1928 book *Die Stufen des Organischen und der Mensch. Einleitung in die philosophische Anthropologie*, this study understands the concept of projectivity as the innate openness of human beings to construct themselves and their world by means of technical artefacts. In this sense, this study proposes a fundamental understanding of technology as the materialization of mankind's tendency to overcome its physical, perceptual and communicative limitations.

[iii] The qualifier 'virtual' is presented by French media scholar Pierre Lévy as not in opposition to 'actual' in the sense of 'current' (presently existing), but to 'actual' in the specific meaning of 'pertinent to the world humans are native to' (Lévy, *Qu'est-ce que le virtuel?* in Goldberg (ed.), 2000, 161). This aspect of the definition of 'virtual' cannot be understood in the restricted context of a single, self enclosed world, but requires the concurrent existence of more than one worlds, at least one of which needs to be indexed as the 'actual' one. Proposing an analogous interpretation, Michael Heim defined some thing as being 'virtual' when it is real "not in fact, but in effect." (Heim, 1994, 109 – 110)

[iv] In a general sense, and in line with the phenomenological tradition, in this text I understand the term 'reality' as a primary and non sensorily-attainable level of existence. The distinction that I will utilize between the terms

'real' and 'actual' is a derivation of the understanding of 'reality' outlined above, where 'actuality' is understood as "reality as disclosed by human beings." (Verbeek, 2005, 108) In this sense, what is labelled as 'actual' is commonly understood as something that is not merely potential or possible, but that is subject to property ascriptions and thus possible of being categorized in ontological structures. A very analogue interpretation is evident, for example, in the distinction that Heidegger posits between the ontological level of beings, which presupposes a world experienced and understood via a characteristically human mode of existence, and the ontic level of beings which is, instead, observer-independent.

[v] For example, Maurice Merleau-Ponty analyzed such a relationship from a chiefly perceptual perspective, Edmund Husserl in terms of consciousness and Martin Heidegger through his original understanding of 'being-in-the-world'.

[vi] According to French philosopher Paul Ricoeur, the fundamental aim of poetry is to "compose an essential representation of human actions; its appropriate method is to speak the truth by means of fiction, fable and tragic muthos." (Ricoeur, 2008, 13) In informative, rhetorical or didactic discourse, units of meaning take the functions of signs that either refer to, stand for or point to something. In poetry, the signs represent nothing, instead they affirm, assert. Poetry ignores the world that is present to our senses and fictionally evokes its own ones. Ricoeur's understanding of poetry closely reminisces of the one offered by Paul Valéry's 1939 essay *Poésie et Pensée Abstraite*, where poetic language is presented as a language of cognition. In its cognitive function, poetry is understood as "the effort which makes live in us that which does not exist" (Valéry, 1939, 1333, translation by Herbert Marcuse in Marcuse, 1991, 68). According to Valéry, poetry breaks the spell of our acceptance of how things are to us, it is the introduction to a different order of things into the established one, it is "the establishment of a new world" (Valéry, 1939, 1327 - with reference to the poetic language of music, my translation). In a very literal sense, this acceptation of the goals and the methodologies of poetry adhere with the original Greek meaning of ποίησις (*poiesis*): 'to create', 'to give shape'.

[vii] Such central features stand out, for example, in the words of Romanian poet, essayist and founder of the European Dada Tristan Tzara, who concluded his famed *Dada Manifesto 1918* as follows: "The abolition of logic, which is the dance of those impotent to create: Dada; […] every object, all objects, sentiments, obscurities apparitions and the precise clash of parallel lines are weapons for the fight: Dada; abolition of memory: Dada; abolition of archaeology: Dada; abolition of prophets: Dada; abolition of the future: Dada […]. Freedom: Dada Dada Dada, a roaring of tense colours and interlacing of opposites and all contradictions, grotesques, inconsistencies: LIFE."

[viii] Susan Laxton's 2003 essay *The Guarantor of Chance: Surrealism's Ludic Practices* focuses on Surrealism's resistant to object-production. Laxton designates those strategies as the Surrealist ludic "an early deployment of chance meant to militate against means/ends rationality." (Laxton, 2003)

[ix] In a very revelatory way, the verb 'to describe' derives from the Latin *scribere* (to write) and indicates, in its original meaning, the act of providing a written account of something. What Wittgenstein recognized as the primary role of language, that of mapping and appropriating the world with an artificial logical system, is evident in this etymology.

[x] In this context, I will utilize the term 'ontology' in a way that was inspired by Heidegger's 1927 book *Being and Time*, where it indicated the way the world is for a being. According to Heidegger, a Being (*Dasein*, German: *da* – 'there' and *sein* – 'being') is always involved with a 'there', a world, and is consequentially always characterized by biological and historical dimensions. In general, from the postphenomenological stance adopted by this study, I will use the unspecific term 'ontology' to refer to human kinds of ontologies, which is

to say the rationalization of the mutually constitutive relationship between a human being and a certain world. From this perspective, things and beings in the world make sense within an ontology precisely because, via the mediation of the senses, they become part of an interactive and persistent system of relationships with an individual human being.

[xi] In this sense, the adjective 'virtual', as used for example by Heim, connotes an aesthetical alternative to the world that can be actively interacted with through digital media, while the adjective 'fictional', encountered in Borgesian texts, indicates a traditionally mediated, and thus non-interactive, form of representation.

[xii] The term 'Overcoming' is not to be understood here in the dialectical meaning inherent in the German term *Überwindung* (surpassing) but must be embraced in the nuanced conjunction of two other terms: *Andenken* (rememoration) and *Verwindung* (distortion, twisting, incorporation). Combining the two characteristic aspects of *Verwindung* in the dyadic expression "acceptance-distortion", Vattimo interpreted the Heideggerian 'overcoming' of metaphysics as "a going-beyond that is both an acceptance (or 'resignation') and a 'deepening'." (Vattimo, 1991, xxvi)

[xiii] The importance of transferring content with phenomenological immediacy, which is to say not in fictional and/or representational ways, was professed by 19th and 20th-century novelists, philosophers, playwrights and movie directors that aligned to the existentialist current. The existentialist method embraced by Jean Paul Sartre openly aimed at the transferring experiences to the reader as well as eliciting first-hand emotions in him/her. This purpose was pursued relying on the immersive and familiar quality of the situations and sensations represented (Sartre, 2010). For the reasons explained in the second section of this paper, the textual medium (especially when utilized in a linear fashion) must be recognized as unsuitable for this purpose, due to the opacity and limitations of its code as well as its having to rely on the mind's capability for abstracting and imagining, rather than on immediate sensations. It is perhaps for this reason that Sartre himself relied on theatre plays as well as books to spread his thought, or that existentialism had had a particular success with cinema. Much like Nagel, I consider new media a new and exciting medium to spread philosophical ideas and, inherently, to transcend the horizon of Western metaphysics and its traditional mediation.

[xiv] On the official website for *Miegakure*, the author Marc ten Bosch explicitly notes that "[o]ur world is three-dimensional: width, depth, and height. But what if there was a fourth physical dimension that we cannot see, in addition to the other three? This game is about exploring the consequences of being able to move in four spatial dimensions + time. It plays like a regular three-dimensional platformer, but at the press of a button one of the dimensions is exchanged with the fourth dimension, allowing for four-dimensional movement." (http://marctenbosch.com/miegakure/ – retrieved on April the 12th, 2012)

[xv] In the context of this study, the adjective 'unworldly' is largely utilized in the common acceptation of 'not pertaining to the world that humans experience and share as biological creature in their everyday life'. Clearly, this connotation needs a further specification – or rather an extension – in virtual worlds, as any being, affordance, physical behaviours that are experienced in a computer simulated environment are, according to the definition above, trivially unworldly. More specifically, then, *Augmented Ontologies* will embrace the term unworldliness as 'not identifiable or analogue with the qualities pertaining to the world that humans experience and share as biological creature in their everyday life'.

[xvi] Another video game which famously borrowed inhuman perceptual systems from the animal world as part of its gameplay is the 2006 *Legend of Zelda: Twilight Princess*, in which Link, the young and anthropomorphic main character, can enter a magical dimension in which he takes the form of a wolf. As a wolf, Link acquires the possibility to follow olfactory trails, which the players perceive spatially as paths of permanent, coloured smoke (Nintendo EAD, 2006). *X-Men Origins: Wolverine* (2009), *Batman: Arkham Asylum* (2009) also famously feature

protagonists whose beastly nature grants them (and their controlling 'hyperstasis': the player) abilities that transcend the physical and perceptual limitations of humans (including echolocation, visualization of smell trails, thermal vision, *et cetera* (Raven Software, 2009) (Rocksteady Studios, 2009).

[xvii] Every element that composes the computer from both a logical and mechanical perspective presents traits which are inescapably anthropomorphic (Cappuccio, 2005, 99). Austrian philosopher Wittgenstein, who had been a colleague of Turing's in the Cambridge years, expressed this awareness with great clarity, stating that: "Turing's machines. These machines are humans who calculate." (Shanker, 1987, 615)