What is it Like to Be a (Digital) Bat?

STEFANO GUALENI – Philosophy of Computer Games Conference 2011 in Athens, Greece

0. ABSTRACT

Could a person ever transcend what it is like to experience and understand the world as a human being? Could humans ever know what it is like to be another entity? In the last century, similar questions about human subjectivity have often been raised within the context of post-metaphysical thinking. In particular, the ones presented at the beginning of this paragraph were tackled from the perspective of philosophy of mind by Thomas Nagel in his 1974 essay *What is it Like to Be a Bat?* Nagel's reflections and answers to those interrogatives were elaborated before the diffusion of computers and could not anticipate the cultural impact of a technology capable of disclosing interactive and persistent experiences of virtual worlds as well as virtual alternatives to the 'self'.

This paper utilizes the observations, the theoretical insights and hypothetical suggestions offered in *What is it Like to Be a Bat?* and Martin Heidegger's framework for a philosophical understanding of technology as its theoretical springboards. The scope of my reflection is precisely that of assessing the potential of interactive digital media for transcending human subjectivity. The chosen theoretical perspectives lead to the preliminary conclusion that, even if there is no way of either mapping or reproducing the consciousness of a real bat, interactive digital technology can grant access to experiences and even systems of perception that were inaccessible to humans prior to the advent of computers. In this context, Heidegger's analysis of *Dasein* is employed in order to define in which specific ways the experience of virtual worlds enables humans to experience and understand previously unattainable aspects of reality. *What is it Like to Be a (Digital) Bat?* proposes a modal realist perspective, where digital media content is recognized as having an expanding and fragmenting influence on ontology.

At a higher level of abstraction, this paper advocates the use of digital technology as a medium for testing, developing and disseminating philosophical notions which is alternative to the traditional textual one. Presented as virtual experiences, philosophical concepts cannot only be accessed without the mediation of subjective imagination, but take an entirely new projective 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. From the onset of Western culture and its social production, the creations of craftsmen and artists depended on the mastery of specific tools, however, noted Jos De Mul, the contemporary artist is no less dependent on technological tools than was his prehistoric predecessor and that this is especially obvious in the case of the development of

virtual worlds [DE MUL, 2010. P. 139]. The content creation possibilities offered by digital media, in fact, grant combinatorially vast possibilities for individual expression and, at the same time, are completely dependent from their technological platform. In this sense, computers can be recognized as capable of encompassing the historical divergence between 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*, released in the same year.

Martin Heidegger proposed, in his 1938 essay *The Age of the World Picture*, a critique of the modern understanding of the Greek concept of *techné*. Heidegger explained that, in ancient Greece, *techné* never denoted the action of making (which is a contemporary, superficial and indirect interpretation of the term), but rather indicated an epistemological approach.

> "Techné, 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." (Heidegger, 1977, 59)

In his foundational 1936 essay *The Question Concerning Technology*, Heidegger already clarified his view according to which different artistic techniques literally express different worlds, or – to put it in more aptly Heideggerian terms – 'disclose' ways in which *Being* has been historically understood (Heidegger, 1977). In this paper, I propose to utilize Heidegger's analysis of the characteristic human mode of being to investigate how interactive digital media can influence ontology. With this intention in mind, it is necessary to briefly explain what I mean by 'ontology' and why I consider it a desirable framework to understand the relationship between human subjectivity and virtual worlds.

I use the term 'ontology' in the way that it was introduced by Heidegger in his 1927 work titled *Being and Time*, where it indicated the way the beings in the world appear to human subjectivities (Heidegger, 1962). Ontologically, beings make sense for humans precisely because they are part of a meaningful and persistent system of relations which is commonly referred to, in the history of Western philosophy, as a world. The Heideggerian understanding of ontology presupposes an elementary difference between the way beings are perceived by humans and a more basic level of their existence which is observer-independent. Heidegger calls this second, fundamental state 'the ontic level of beings'.
From an ontological perspective, what distinguishes video games and digital simulations from traditional media of representation such as sculpture, painting or film is that, instead subjective representations, they offer the possibility to meaningfully and stably create relationships with the elements of the representation itself, allowing the emergence of worlds.

This paper, principally relying on the philosophical work of Martin Heidegger, argues that technology and (Western) societies are not two separate systems, but are interrelated phenotypes of a more basic structure: that of metaphysical thought. For this reason, my

reflection borrows from the social constructivist standpoint the perspective according to which the (incestuous) relations between technologies and societies are influenced by a large quantity of interrelated factors on different ontological levels: social, technological, cultural and biological. However, as MacKenzie and Wajcman wrote in 1999, stating "that technology's social effects are complex and contingent is not to say that it has no social effects." (Mackenzie & Wajcman, 1999, 4) As a consequence of what was observed, technology will be embraced as a factor of cultural change among others, but a factor whose influence is becoming more dominant with the increasing technologically mediation of the way humans interact with the world.

2. HOW TO PHILOSOPHIZE WITH A PORTAL-GUN

In explaining the difficulties in the articulation of an objective, physicalistic 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 boundaries of what it is like to experience the world and interact with it as 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 imagination. On this basis, he maintained that it is impossible to influence a person's world-view by only resorting to the subjective representation of phenomena. In other words, 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, 2)

Nagel purported that, in order to be used in a physicalistic model of the mind, experiences need to be objective: imagination can only suggest what it would be for a human subject to behave how a bat behaves. That is, however, not the question that his essay tried to answer. What Nagel wanted to explore from the perspective of philosophy of mind was, in fact, the possibility for humans of ever knowing what it is like for a *bat* to be a bat.

Setting up his argument, Nagel stated that, much in the same way as Heidegger, the way humans understand the world and relate with it has an unavoidably subjective character. According to Nagel, such a subjective quality implies that that the answer to the question 'what is it like to be a bat?' cannot be handled within the limitation of human metaphysics, and that – consequently - 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. In the face of these limitations, Nagel decided to conclude his essay with a speculative proposal: the hypothetical possibility of closing the gap between subjective and objective knowledge from another direction than the human imaginative capabilities.

Nagel envisaged the creation of an objective phenomenology that is not based on imagination, which is to say not based on subjective representations.

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

The *Independent Games Festival* 2010 student showcase entry *Haerfest* is a videogame that was developed under my supervision at the *International Game Architecture and Design* (*IGAD*) program at NHTV, University of Applied Sciences of Breda, the Netherlands (TECHNICALLY FINISHED, 2009). *Haerfest* was designed with the intention of providing an objective answer to Nagel's question. Both in Nagel's essay and in our experimental video game, the choice of a bat was motivated by the fact that it is an animal that is relatively close to humans from a phylogenetic point of view (mammal, chordate) but, at the same time, has a cognitive equipment and, consequently, a subjectivity that is profoundly inhuman.

In one of the last passages of *What is it Like to Be a Bat?*, Nagel observed that there is no way yet of knowing what such an experience is like from the point of view of neither metaphysics nor neuroscience. Accepting Nagel's preliminary conclusion according to which there is no objective way of knowing or reproducing the real consciousness of a bat, *Haerfest* attempts 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 what it is like to have a very short sight, to have to eat bugs, to have to flap flabby wings to fly and to be able to sense distant volumes as well as moving objects via a bio-sonar system (see figure 1).

Figure 1: Synaesthetically associating sound with fading tridimensional volumes, *Haerfest*'s bat can explore the game-world overcoming the protagonist's eyesight limitations. As in an actual bat's perceptual system, the bio-sonar can also be used in the game to locate preys and fellow bats. In *Haerfest*, emitting an ultrasonic wave requires a portion of the protagonist's health bar, therefore the player – like a real bat – will only be able to have a wholistic perception of the world in discontinuous information bursts[i].

Like most interactive digital simulations, *Haerfest* grants access to a persistent and aesthetically discernible world. It endows the player with a virtual system of perception that, although unverifiable in its analogy to that of a real bat, is incongruous with the way human beings ordinarily relate to the world. Michael Heim remarked in 1993 that the way in which computers grant access to virtual experiences and allow smooth and controlled transitions to the real and back cannot be satisfactorily explained with analogies to other forms of entertainment or the use of psychotropic drugs. Recognizing a profound cultural shift in the advent of interactive digital technology, Heim maintained that the interaction with radical alternatives to a traditionally univocal world-view has such profound implications on epistemology, aesthetics and sociology that it must be explored and understood in a way that is necessarily philosophical (Heim, 1994, xvii).

Even if virtual technology cannot yet objectively reproduce the subjectivity of a bat, it does offer ways to objectively reveal previously inaccessible, modal aspects of reality. The crucial point in this understanding of the metaphysical relevance of interactive digital media content is that it prompts humans to apply their cognitive and perceptual equipment as well as their subjectivity to a context that could not be encountered in their ordinary life. As

Heidegger observed, human ontology is grounded in the ontic characteristics of human subjectivity. Interactive experiences within digital media must consequently be recognized as affecting ontic aspects of the characteristic human mode of existence, and this cannot happen without ontological consequences.

The observation according to which computers influence human subjectivity via the disclosure of virtual ontological alternatives to the way reality was traditionally understood is valid for any digital experience, from the interaction with a digital text-editor (as explained by Michael Heim in his 1987 book *Electric Language: A Philosophical Study of Word Processing* and Jay David Bolter in his 1991 *Writing space: The computer, Hypertext and the History of Writing*) to the gameplay of video games. It is particularly relevant to notice that in the latter, the laws of physics as well as metaphysical assumptions are not only openly defied, but are increasingly often interactive and modifiable elements of 'play' themselves (see figure 2).

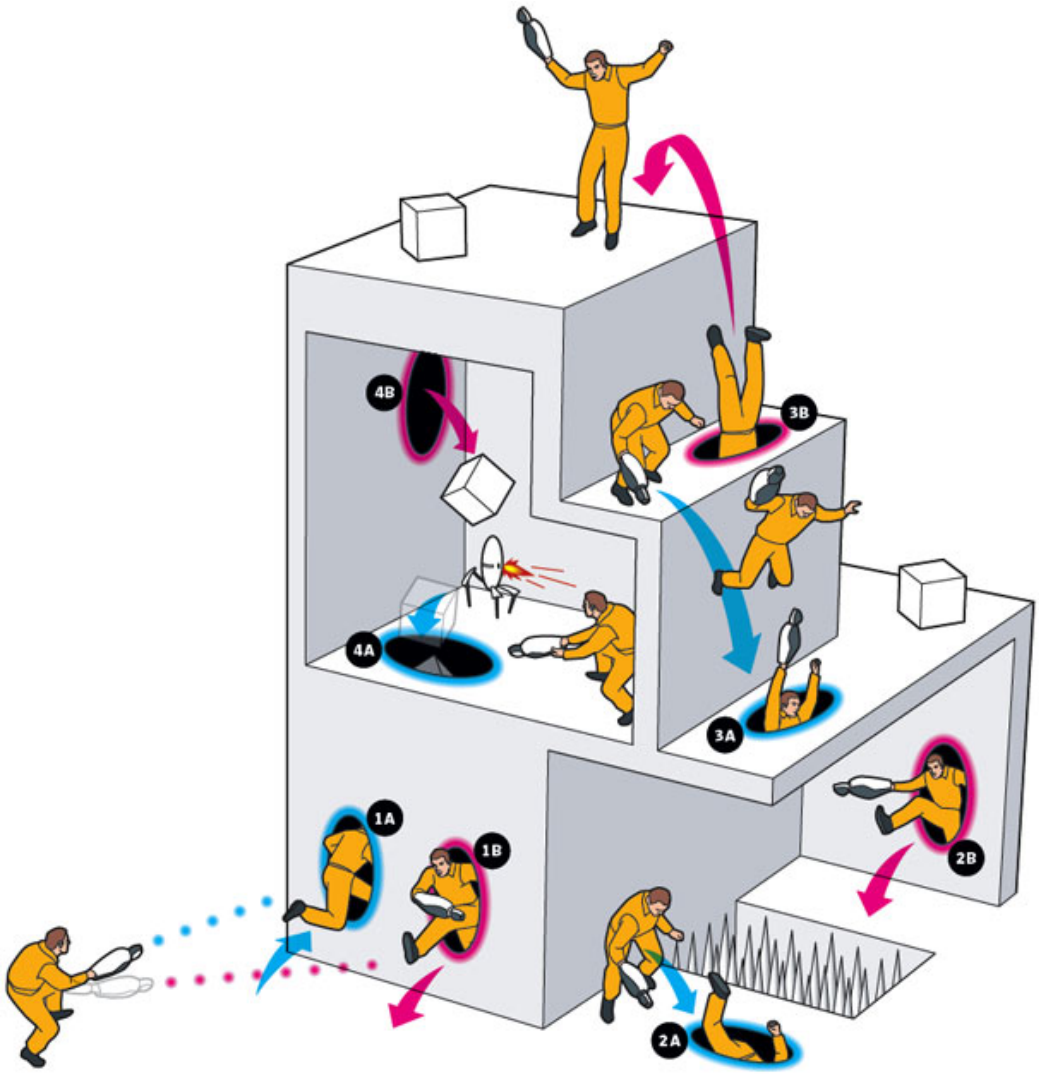

Figure 2: Valve Corporation's 2007 video game *Portal* relies on a game mechanic which openly infringes the traditional understanding of space as a continuous whole[ii].

The videogame *EXP*, (a game-concept of mine, developed under my supervision at the *IGAD* program) received an honourable mention at the *IGF Student Showcase 2011*. *EXP* is another evident example of the contemporary game-design tendency to pursue innovation via insubordination towards established metaphysical assumptions (Team UBIK, 2011). *EXP*, inspired by Philip K. Dick's 1969 short story *The Electric Ant*, explores the philosophical possibility of understanding metaphysics as a formal, modal construct. During gameplay, the player can interactively experience the progressive deconstruction and the eventual removal of video game elements from both an aesthetical point of view and a mechanical one. Progressing in the game, the 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, taking any forms of quantifiable meaning for the game itself with it.

In the novel *The Electric Ant*, the reader is fictionally informed about the test Garson Poole is carrying out with his personal, formalized ontology. Similarly, in the videogame *EXP* the player exposed to a persistent and interactive world, whose phenomenology is subject to an objective process of degradation and subtraction that eventually renders of the very formal structure of the game meaningless (see figure 3).

Figure 3: Screenshots from EXP showing three different moments in the progress – and degradation – of the gameplay experience.

3. CONCLUSION

Interactive digital technology expands and fragments human subjectivity and it does so offering objective experiences of virtual worlds as well as of alternative ontologies. As I recently pointed out on an article on the Dutch videogame industry magazine *Control*, I believe that "[…] what video games inherently propose […] is that the present state of the world is neither the best, the ultimate, nor in any way univocal." (Gualeni, 2011)

Unlike *Haerfest*, the video games *Portal* and *EXP*, do not directly tackle the question of overcoming human subjectivity. Similarly to *Haerfest*, however, they disclose worlds which allow the player to objectively explore philosophical (or more strictly speaking metaphysical) concepts and possibilities. They are two particularly explicit examples that the interactive experiences of virtual ontologies are, in both in their constructive and explorative aspects, viable philosophical tools.

The versatility and the programmability of the digital platform already fostered the development 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 in society as well as the diffusion of digital media, more metaphysical questions will arise and will be tackled specifically within virtual worlds and that the new generations of philosophers will more and more frequently test and distribute their ideas in the form of interactive digital media content.

The shift towards an understanding of the digital medium which combines phenomenology with simulation theory – as well as the embracing of the ontological potential of virtual worlds – is not only likely to grant philosophical ideas a greater visibility and testing possibilities, but offers philosophers the opportunity to experiment with overcoming 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 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 that he often used the film to illustrate his philosophical points (De Mul, 2007). Similarly, twenty-first century philosophers could utilize gameplay to exemplify and test theirs as I did with *EXP* (and with *Gua-Le-Ni; or, The Horrendous Parade*, see note iii). The projective and epistemological qualities of digital media already laid the foundations for a new branch of philosophy which I propose to call 'augmented ontology'.

Whereas the mechanicistic technology (which is what the later Heidegger mainly focuses on) aims at a rational domination of the world for the benefit of mankind, 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[iii]. […] From a *thrown* project, *Dasein* [the specific name Heidegger gives to the characteristical 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)

This is not to say, however, that digital media are or are going to be the ultimate philosophical tools or the all-encompassing climax of the modernistic will to rationally control the world. In his 1964 book *Understanding Media: The Extensions of Man*, Marshall McLuhan observed that technology does not only provide advantageous enhancements of the human mental and bodily capabilities, but is also a form of self-amputation. In other words, new ways of establishing relationships with reality necessarily entail a balance between the increase in acuity of certain cognitive functions and the desensitization of others. With these effects in mind, the use of virtual technologies as philosophical tools must be pursued with the awareness that, far from being a neutral technology, computers also disclose reality in ways which are both revealing and concealing.

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[i] Odors are also synaesthetically represented in the virtual perceptual system of *Haerfest*: intensity, positions and directions of olfactory inputs are made intelligible for the players visually rendering them as coloured trails of smoke.

[ii] *Portal*'s breach of the traditional understanding of space:

1) *Portal* players get an *Aperture Science Handheld Portal Device*, which can create warp portals between any two flat surfaces.
1a) Fire at a wall, floor, or ceiling to create an entrance point.
1b) Fire where you would like to end up to make an exit point.

2) Some obstacles can be dodged only by creating portals.
2a) Blast an entry point in the ground.
2b) Create an exit point on the far wall. Drop through the hole in the ground and you'll emerge on the other side of the spike pit.

3) The game poses conundrums, like how to get up to a platform that you can't jump high enough to reach. The solutions often rely on the fact that momentum is maintained when warping.
3a) Create an entry portal one level down.
3b) Bore an exit point on the floor next to you. Leap down into the entry portal. Even though you will be moving in the opposite direction, when you re-emerge your inertia will propel you all the way to the upper level.

4) Take advantage of objects in the environment to neutralize gun emplacements and other dangers.
4a) Open an entry portal under a box.
4b) Put an exit portal above the gun. The falling box will gather enough speed to knock over the gun.

(taken from http://www.wired.com/gaming/gamingreviews/magazine/15-10/pl_games - Illustration by Jason Lee)

[iii] The commercial videogame *Gua-Le-Ni; or, The Horrendous Parade* (www.gua-le-ni.com) which I developed for the *Apple iPad* in collaboration with *Double Jungle SrL* focuses specifically on offering an alternative to written philosophy. In *Gua-Le-Ni*, a digital book becomes the virtual 'space' where digital beings (namely beasts finely drawn on virtual paper) reveal their combinatorial essence. The idea for the game came from both the development of my doctoral dissertation, a fascination with colonial bestiaries and David Hume's philosophical concept of 'complex ideas'.

The book in which the gameplay of *Gua-Le-Ni* takes place is itself the virtual field of possibilities of the paragraphs of this very paper, which are procedurally reassembled every time the pages are turned. The title of the game, my family name hyphenated as the combinatorial names of the fantastic creatures possible in the virtual book, suggests that the author of the game itself – or humans in general – could also be observed as modal – and trivial – phenomena of recombination.