

# **ENLARGE YOUR MESOSCOPY:** **a philosophical reflection on the human scale and projectual ontologies**

Stefano Gualeni, Institute of Digital Games, University of Malta

## **0 - Abstract**

Several modern and post-modern philosophical efforts directed towards understanding human ontologies recognize the limit of their inquiry in the ‘human scale’. In other words, philosophers concerned with ontological interrogatives often consider their questions to be inescapably determined by our possibilities to perceive and classify our environment as human beings. Maurizio Ferraris, for example, deemed ontology to be primarily concerned with the perceptibility and invariance of common things that human beings can encounter, interact with, and understand via their proximal experience of the world. More specifically, Ferraris identified in *mesoscopy* (the middle scale, the spatio-temporal scale of phenomena that human beings can natively perceive and understand) the fundamental context of any human ontologies.

The concept of *mesoscopy* that was just outlined relies on an essentialist understanding of the human being, a perspective that Ferraris shares, at different levels and among others, with Martin Heidegger. From their perspective, our possibilities to perceive the world, manipulate it, and think about it (our ‘scale’) depends on characteristics of the human being that are, in essence, universal. In line with this belief, philosophers embracing an essentialist perspective would claim that the technologies that are constitutive to human existence (in everyday life as well as in scientific research or space exploration) do not effectively broaden the reach of human ontologies, but rather distance mankind from their native and genuine relationship with reality.

In this essay, I argue that ontologies that do not accompany mankind and its socio-cultural practices in its historical process of change and self-discovery cannot be expected to provide reliable foundations for our progressively more technically-mediated social practices. Consequently, the discipline of ontology can only be expected to be relevant and useful in our progressively more technologically-involved society if reframed in ways that can accompany socio-cultural practices in their historical process of change, and that can assist mankind in its projectual pursuit for meaning, balance, and self-discovery. In the attempt to overcome an essentialist understanding of ontology, and supported by insights coming from the philosophy of technology, this essay proposes to reframe the discipline of ontology as an historical and projectual branch of philosophy.

## **1 – Introduction**

In the philosophical tradition of phenomenology, the term ‘world’ generally indicates a set composed of beings that are understood together with all their (detectable) properties and mutual relationships. More specifically, a world describes that set as experienced by one of the beings involved in it. To be identified as a world, that experience needs to be persistently perceivable and behaviourally consistent, as those qualities are necessary to make it emerge as an intelligible world for a being within a certain spatial-temporal context. To put it simply, a world indicates a way in which reality is disclosed to a being (Verbeek, 2005, 108).

On the basis of this definition of what a world is, when talking about ‘an ontology’ I am referring to it as a way to structure the knowledge that emerges from specific perceptual, cognitive, and

operational relationships with a world. Elaborating on this basic definition, philosophers customarily identify with ‘ontology’ a discipline (or set of disciplines) concerned with the fundamental study of the things that can be said to exist in a world, their qualities, and interrelationships.

Several ontological approaches and perspectives concerning the nature of being, of becoming, of experience, and of reality punctuated the history and the development of the Western tradition of thought. Since their dawning in ancient Greece, ontological approaches to knowledge have been more or less explicitly confined, in their experiential horizon, to the human scale; that is to say, confined to perceiving and understanding qualities and phenomena that are natively possible to be encountered and interacted with by human beings. Traditional human ontologies consequently focused on understanding things and groups of things that were neither too big nor too small, and phenomena that were neither too fast nor too slow. In other words, traditional human ontologies implicitly adopted the mesoscale as their field of philosophical inquiry. In that respect, it is not a coincidence that our original measuring units – i.e. feet, palms, and arms – originally derived from our human bodies and were used as tools to frame our experience of the world. A heritage of that mesoscopic origin is still evident in the comfortably human scale of our current measurement units: the meter, the litre, the yard, the kilogram, the pound, et cetera.

Starting from the early Modern period, the successful practical applications of the empirical sciences together with the wide-ranging advancements that they fostered (for example in the fields of industrial production, medicine, *et cetera*) contributed to the branding of ontology as an exoteric, speculative discipline, relegating it to a secondary cultural role<sup>1</sup> (Gualeni, 2015, 26). To paraphrase American scholar Catherine Wilson, it was as if the natural sciences had taken control of what had been mutual territory for investigation, leaving only subjective experience to philosophy (Wilson, 2000, 67).

On the background of the secondary cultural role that is currently attributed to ontological inquiry, this paper argues for new ways to look at the discipline of ontology with the objective of rediscovering its insights and methods in ways that can be relevant and useful in our technological *lifeworld*. What I am advocating for here is not a revival of a dead discipline, but rather a repurposing of the philosophical questions and methods of ontology as fruitful tools to understand our progressively more technically-involved worlds and socio-cultural practices. In the pursuit of such objective, this essay will start by criticizing a traditional, and traditionally essentialist understanding of the discipline of ontology. When discussing ‘essentialism’ in philosophy, the term commonly refers to the belief that certain qualities of human beings and certain ways of experiencing the world as human beings are shared by all mankind. Such traits are recognized by philosophers holding an essentialist perspective to be unchanging and independent of socio-cultural context. In their necessity and universality, those essential traits of humanity allegedly constitute the basis for the definition of what ‘a human being’ is. Using Martin Heidegger’s and Maurizio Ferraris’s early works as examples, I will specifically focus my criticism on two aspects of an essentialist understanding of human beings and human ontologies. In particular, I am referring here to:

1. the belief that technological artefacts do not participate in the structuring of genuine human ontologies (mostly discussed in the **second section** of this paper), and

---

<sup>1</sup> German philosopher Helmuth Plessner noted that, after Descartes, theoretical knowledge forced mesoscopic ontology (“natural philosophy”) out of its original shape into a system of techniques, empirical activities, and principles of reasoning known as “the scientific method.” (Plessner, 2006)

2. the understanding of *mesoscopy* as the exclusive and epistemologically impermeable domain for the development of human ontologies (this aspect will be chiefly criticized in the **third section**).

In the **fourth section and fifth sections** of this essay, insights and perspectives coming from the field of the philosophy of technology will contribute to the recognition of some historical (that is, non-essentialist) aspects that characterize human ontologies. In particular, the fifth section will identify three additional ways to ontologise that are either facilitated by technologies or can only ensue from our relations with certain technologies<sup>2</sup>.

**In the sixth and conclusive section**, this essay will present a reflection on the cultural role of ontology and argue a case for a reframing it as a projectual (and, as such, inevitably self-reflexive) discipline. Two additional philosophical corollaries to a non-essentialist reframing of ontology will be also offered in this last section, namely the worth of an archaeological approach to ontology as a new philosophical branch, and the reformulation of *mesoscopy* as an historical concept.

## 2 – A reflection on Heidegger’s ontological essentialism

In his existential analysis of the experience of being that is specific to the human being (experience which he calls *Dasein*, often translated in English as ‘human existence’), German philosopher Martin Heidegger identified three constitutive dimensions that characterize our being-in-the-world. Focusing on the temporal character of human existence, Heidegger proposes to analyse the way in which human beings are in the world in terms of their:

- Thrownness (*Geworfenheit*): *Dasein* is always ‘thrown’ into existence, and characterized by qualities and conditions that it has no control over. This is what Heidegger calls ‘facticity’. In other words, *Dasein* is inescapably ‘thrown in the world’ in a certain way that provides the inescapable basis for its existence. From the perspective of its temporality, we can say that *Dasein* is always ‘thrown out’ of a certain past that determines its present and future trajectories.
- Everydayness (*Verfallenheit*): Literally ‘fallenness’, everydayness is the way in which *Dasein* is commonly absorbed in its quotidian affairs. In its everydayness, human beings run the risk of busying themselves in trivialities and forgetting the crucial questions of their existence. In this ‘fallen’ way of being in the present, *Dasein* tends to mindlessly align with what is socially expected of it, while detaching from what Heidegger identifies as its ‘authenticity’ (*Eigentlichkeit*).
- Projectuality (*Entworfenheit*): In its projectual (or projective) dimensions, *Dasein*’s existence has the character of openness towards its future potentiality for being. As human beings, according to Heidegger, we are always directed towards a future in which we can

---

<sup>2</sup> The understanding of the term ‘technology’ utilized in this paper draws on Dutch philosopher Jos De Mul’s work in philosophy of technology. In his book *Filosofie in Cyberspace: Reflectie op de informatie- en communicatietechnologie (Philosophy in Cyberspace: A reflection on information and communication technologies)*, technology is broadly defined as “a conglomerate of [...] artefacts, specific forms of knowledge and capabilities [...] (embraced in their necessary relation with the relative) geographical and social infrastructure, economic interests and societal norms and values.” (De Mul, 2010, 30)

realize our possibilities, construct our existence, and concern ourselves with the inevitability of our death.

Heidegger's analysis also relied, in the early phases of his thinking, on what can be understood as a largely essentialist understanding of mankind. As a case in point, both Heidegger's 1927 book *Being and Time* understands human existence in an ahistorical light. In that light, human existence is crucially defined by those unchanging traits that all human beings allegedly share regardless of culture of provenance, historical period, stage of technological development, formal education, *et cetera*.

Technological development, in particular, was a central issue of concern for Heidegger. As a reaction to the growing mechanization of the world that he witnessed at the beginning of last century, Heidegger understood the technological mindset as the most extreme form of objectification of human values and human beings alike. Rather than embracing technologies as additional ways for engaging with reality, the early phases of Heidegger's thought regarded all forms of mechanized optimization and automation as forms of 'severance' from the world. An analogous approach to technology can be recognized in the work of Jacques Ellul and Herbert Marcuse among others, and a similar techno-pessimistic perspective guided the work of social theorists of the same period, including, notably, Arnold Toynbee.

Technical and biological development as well as political and socio-cultural transformations are thus embraced by the early Heidegger *as the products of an epochal change* in the ways humans relate to the world, *and not as contributing to those transformations* (as either causes or concomitant factors). To rephrase this concept in simpler terms, and to bring the discussion back to Heidegger's analysis of *Dasein*, Heidegger understood the technological mindset as a deficient mode of being: as a way to be-in-the-world that adds to the inauthenticity of our 'everydayness'. In this sense, Heidegger believed that no forms of technological extension can be recognized as capable of assisting us in our 'projectual' realization as authentic human beings. Relying on an essentialist understanding of the human experience of being and on gloomy predictions of techno-cultural disaster, his early thought presents a monolithic, ahistorical understanding of what human ontologies are.

It is not uncommon to identify essentialist traits in several modern and post-modern approaches to humanism and the social sciences. Philosophers and scholars adopting similar stances customarily appoint a universal and ahistorical understanding of the 'human scale' as the limit of their inquiry. These constraints are typically set in the attempt to both distance their scholarly efforts from those of other gnoseological disciplines (such as epistemology or the natural sciences), and with the objective of substantiating the existence of their 'knowledge domain'<sup>3</sup>.

---

<sup>3</sup> I find the distinction between ontology and the natural sciences (chemistry, physics, astronomy, *et cetera*) posed by the essentialists to be particularly revelatory in terms of their stance towards technology and technological development: while the alleged 'authentic human kinds of ontologies' are presented as non-evolutionary and impermeable to technological development (if not entirely at odds with it), the natural sciences are characterized by their constant struggle to refine and expand their bodies of knowledge. In the context of the dichotomy discussed above, I believe it is particularly interesting to note that developments in the natural sciences occur through shifts and revolutions in epistemological paradigms that are always concomitant with, and often directly triggered by, technological advancements.

### 3 – Ontology as a mesoscopic, descriptive discipline in Ferraris’s early work

An example of the just outlined essentialist approach can be identified in the early scholarly work of contemporary Italian philosopher Maurizio Ferraris. In his 2002 essay ‘Inemendabilita’, *Ontologia, Realtà Sociale*, Ferraris deemed ontology to be concerned with the perceptibility and the invariance of common things that human beings can encounter, interact with, and understand in their native and proximal experience of the world (Ferraris, 2002, 7 – 12). Consequently, he identified in the *mesoscopy* (the middle scale, the spatio-temporal scale of phenomena that human beings can natively relate to) the fundamental context of any human ontologies.

Further explaining his position on the inevitable *mesoscopy* of human ontologies, Ferraris clarified that he considered it absurd to affirm that things that have too big a scale or too small a scale can never become part of ontologies. Since the dawning of optics, for example, a multitude of non-*mesoscopic* entities became part of human ontologies by means of technical mediation: it is only through the intercession of instruments such as the microscope or the telescope that we could start to classify microorganisms and to observe distant galaxies. Strictly speaking, however, at that point we are no longer discussing human ontologies as, according to Ferraris, human ontologies are solely concerned with the things, properties, beliefs, and sensations that pertain to the unabridged experience of our mesoscopic, everyday engagement with the world (Ferraris, 2002, 10 – 12). As such, for the Italian philosopher, human ontologies can be said to have undergone little-to-no historical evolution since we started to philosophize about them<sup>4</sup> (Ferraris, 2002, 16).

Ferraris’s position thus deliberately ignores the socio-cultural determination of the phenomenological sphere on which, by definition, human beings structure their kinds of ontologies. On this basis, I believe it is evident that no linguistic conventions, no ideological beliefs, and no ontological structures can ever aspire to have ubiquitous or ahistorical truth values, as they are themselves artifacts established in specific cultures to permit and facilitate communication and allow for the development of ideas as well as plans of action. Ontologies, ideas, and habits can give the impression of stability and absoluteness only when they are firmly established in a certain socio-cultural (context. They are, to borrow the words of Friedrich Nietzsche in his unpublished 1873 essay ‘On Truth and Lies in a Nonmoral Sense’,

“[a] mobile army of metaphors, metonyms, and anthropomorphisms—in short, a sum of human relations which have been enhanced, transposed, and embellished poetically and rhetorically, and which after long use seem firm, canonical, and obligatory to a people [...].”

With the objective of arguing for a historical understanding of both the human being and its mesoscale as the conditions for a fruitful use of an ontological approach to our progressively more technologically-involved culture, I believe it is desirable to problematize, first and foremost,

---

<sup>4</sup> In the fourth chapter of *The Robot in the Garden* (Wilson in Goldberg, 2000), the already mentioned Catherine Wilson argued that 18th-century philosophers developed theories of landscape as a reaction to the appearance of the locomotive, and that – similarly – 20th-century phenomenologists developed theories about the immediacy of experience in response to the emergence of the automobile, the radio, and electrical appliances (Wilson in Goldberg, 2000, 66). Both groups of theories privileged, according to Wilson, everyday objects and familiar relationships over the distant and inscrutable workings of machine technology. In analogy with Wilson’s approach, one could suggest the existence of a relationship between essentialistic ways to understand human ontologies and the diffusion of tele- and virtual technologies. What those technologies offer can, in fact, be understood as ways to augment and externalize the human possibilities for perceiving and operating in the world. Consequently, virtual technologies and tele-technologies could be interpreted as threatening the primacy and originality of human experience (cfr. Section 5 of this essay).

Ferraris's establishment of an essentialist understanding of the mesoscale as the exclusive context of the discipline of ontology.

My objection to Ferraris's stance has to do with the ways in which insights deriving from the natural sciences and from other forms of philosophical inquiry (for example ethics or epistemology) contribute to the ways in which we interpret our experience of mesoscopic phenomena and how we behave in relation to them. A practical example will hopefully be helpful to both clarify my resistance to Ferraris's perspectives and to make the ontological relevance of technology more evident. The case I will briefly discuss here, and that is often mentioned by Dutch philosopher Peter-Paul Verbeek, is that of technically-assisted diagnostics. The diagnosis for diabetes requires, for instance, that a blood sample is taken from a subject and analysed in a medical lab to be tested and analysed spectrophotometrically. I believe it is intuitively clear how being tested positively for diabetes (together with having received medical information about that metabolic disease) is likely to have direct re-ontologizing effects on human beings with regard to their attitudes and their conduct towards sugary foods and their consumption. The implication here is that a spectrophotometer has a direct influence in the ways we understand our metabolism and our mortality. Similarly, Verbeek pointed out that ultrasound, when used for pre-natal screening, "radically changes the experience of being pregnant and the interpretations of unborn life." (Verbeek, 2011, 27) In summary, through the mediation of technology (microscopes, telescopes, spectrophotometers, ultrasound machines, et cetera) human kinds of ontologies are restructured and enriched in specific ways that transcend the native effectors and the 'middle scale' of human beings.

In order to avoid similar, and similarly obvious, observations from pinning down ontology as a subset of epistemology, Ferraris added an extra restriction to what he labels 'ontology' (2002, 9), posing a further distinction between

- disciplines that focus on the *perceptions* of our mesoscopic world (a field of inquiry that is, according to Ferraris, the exclusive context of ontology), and
- disciplines that provide *explanations* of our mesoscopic world (among which, for example, epistemology, epidemiology, marine biology, ballistics, optometry, medical diagnostics, *et cetera*).

This extra definitory restriction in Ferraris's early work does not, however, provide additional conceptual tools that can help us answer the question of what relevance and what roles the study of ontologies can have in our technological age. Rather, it defers the problem of a critical and contextual definition of 'human ontologies' to the problem of neatly separating the perceptions of phenomena from their explanations. In articulating a philosophical reflection on ontology in relation to the human scale, I find Ferraris's perspective to be unsatisfactory for two main reasons:

- 1) because the very possibility of a separation between perception and explanation is never explicitly articulated or problematized in his work, remaining a definitory 'rug' under which to sweep the problem of the relevance of an essentialist ontology as a foundation for the 21<sup>st</sup> century social sciences, and
- 2) because confining the domain of ontology solely within the limits of human perception is methodologically incompatible with the definition of 'ontology' provided at the beginning of this text. My initial definition of ontology embraced, in fact, not only the perceptions of the things and properties that are in a world, but also all the detectable relationships among those things and properties. Proceeding from that definition, all the knowledge that can be accumulated about a world does effectively contribute to the structuring of our ontological

understanding of it. I do not see any reasons, apart from the already mentioned desire to protect one's 'knowledge domain', why in the structuring of *mesoscopic* ontologies we should exclude technological mediation or dismiss insights offered by explanatory disciplines.

Ferraris's position becomes even more problematic to accept when we do not solely focus our attention on the ontological effects of technologies that are specifically capable of revealing new interpretations and new dimensions of our world. In fact, the question of the roles of technological mediation in the structuring of human ontologies (as well as the possibility for neatly and meaningfully separating the domains of ontology and technology) further complicates when we analyse other kinds of ways in which technologies contribute to our *lifeworld*. This is the case, for example, of technological systems that work without the need of our awareness of them or of our active, intentional use. To resort to American philosopher Don Ihde's phrasing, those technologies function as barely detectable background presences, and include semiautomatic technologies such as the fridge or the thermostat. Those 'background' technologies are not providing any 'explanations' of the world, and yet they are by definition integrated and constitutive elements of our *mesoscopic* experience of the world.

As already hinted in the previous paragraph, the following sections of this paper will shift their focus from the general socio-cultural determination of human phenomenologies and human ontologies (which was the foundation for my critical perspectives towards essentialistic positions) to the ways in which our technologies contribute in making our relationships with the world malleable and unstable. With this objective in mind, perspectives and insights coming from the philosophy of technology and philosophical anthropology will be structural to my argument for the rejection of an essentialist and purely descriptive understanding of the discipline of ontology.

#### **4 – “The apostate of nature”**

Differently from the pessimistic perspectives outlined in the previous section that understood technologies as inauthentic and privative dimensions of human existence, the work of German philosopher Helmuth Plessner presents the artificial world of culture (which also includes art, religion, and technological development) as a second nature for mankind. Culture is understood by Plessner as the general context where human beings can “make something of themselves” and pursue the state of balance and completeness that they characteristically lack and inherently aspire to achieve (Gualeni, 2015, 113-114).

On these premises, Plessner elaborated his understanding of the human being as the “apostate of nature” or, as explained in his first ‘anthropological law’, a creature that is “artificial by nature.” What Plessner upheld in his philosophical anthropology is simply that the need for supplementation of an unnatural kind is structural to who we are as a species (Plessner, 1980–1984, IV, 382–385). He believed that mankind inherently aspires to the transcendence of its original (natural) condition through the establishment of new, artificial worlds (Plessner, 1980–1984, IV, 385). Put somewhat more simply, Plessner understood any forms of cultural and technological efforts as artificial ways to try to supplement – or more generally to come to terms with – the finitude and incompleteness that define human existence.

The understanding of technology and the social roles of technology outlined in the previous paragraphs were articulated by Plessner from a specific perspective (that of philosophical anthropology) which developed at the beginning of the twentieth century and attempted to make

sense of the human condition by combining perspectives from biology and philosophy (De Mul, 2015, 458, 459). The general conception of technology as the context where human beings can biologically transcend their native, lacking condition is not exclusive to Plessner. Philosophical fields such as media philosophy and the philosophy of technology specifically focus on the possibility of technological mediation for overcoming the difficulties and the disturbances arising from the human beings' disconnection from one another, and their limited extension in time and space (Gualeni, 2015, 153).

Modern philosophy of technology was inaugurated by the German Philosopher Ernst Kapp at the end of the 19<sup>th</sup> century. Kapp was the first scholar to explicitly frame the idea that technical artefacts are extensions (or rather "projections") of functions that were originally carried out by human organs. More recently, and as already mentioned in the previous section of this essay, Don Ihde understood technology as having an implicit influence on the ways in which we experience our world(s) and structure our relationships with it(them). His work will be discussed in finer detail in the fifth section of this essay, where the focus will specifically be on the effects of our technological *lifeworld* on our ontologies and *mesoscopy*.

When discussing the perceptual and hermeneutic implications of our technologies, I believe it is crucial to clarify that I do not simply refer to their affording new possibilities to perceive, understand, and manipulate things (for example through technologies such as the microscope, the telescope, or the microtome), but I am also concerned with their more implicit influences as heuristic devices<sup>5</sup>. The invention of the mechanical clockwork is often used to illustrate the notion outlined above, that is to say that our technological environments shape our ways of thinking in ways that are subtler and more pervasive than the actual functions offered by technologies or technological systems. In the early modern period the precise, ingenious mechanism of clocks such as that of the Minster in Strasbourg persuaded the classical physicists that nature worked like clockwork (Dijksterhuis, 1986, 442f). American media theorist Neil Postman noted that, similarly to metaphors, our technologies "classify the world for us, sequence it, frame it, enlarge it, reduce it, colour it, argue a case for what the world is like."<sup>6</sup> (Postman, 2005, 10)

In line with what was observed in the last few paragraphs, this essay supports the idea that the various ways in which we can perceive worlds, understand them, engage in worldly practices, and reflect on ourselves cannot suitably be understood apart from the technologies and technological systems that contribute and disclose those worlds for us. If we are willing to accept that technology plays a constitutive role in our *lifeworld*, and notwithstanding of the illustrious philosophical tradition concerned with a strictly mesoscopic pursuit of ontological knowledge, I believe it is cogent to question the relevance and the value of programmatically constraining the study of ontology to the mesoscale. To formulate these interrogatives more explicitly: can the development and the study of ontologies provide a plausible and reliable foundation for our (progressively more technically-mediated) culture and social practices, when such ontological activities are pursued on

---

<sup>5</sup> In philosophy, a 'heuristic device' indicates a conceptual tool that enables a certain understanding of something, or to develop a specific kind of knowledge concerning something. A functional model of a certain thing is a good example of a heuristic device: it discloses and frames certain functional aspects or dimensions of what it models, and yet it is never identical with what it models. In this sense, and as contextualized in the rest of the paragraph, metaphors, analogies, parables, *et cetera* can also function as heuristic devices.

<sup>6</sup> In the age of digital media, as a recent example of the apparently inevitable tendency of philosophy to think through technological metaphors, Italian philosopher Luciano Floridi claimed that – at a certain level of abstraction – everything that exists can be understood as a "data structure", as an "informational object". Understanding human beings as data structures, continued Floridi, entails accepting the idea that, as informational agents, we might not be very different from the artificial and intelligent agents with whom we share a global environment (a global environment that is also, ultimately, comprised of information) (Floridi, 2009, 16).



the premises of an unchanging human nature? Should not the discipline of ontology strive, instead, to accompany mankind and its socio-cultural practices in its historical process of change and self-discovery? And what would a reframing of ontology entail in terms of our understanding of the ‘middle scale’?

In the next section of this essay, inspired and guided by Don Ihde’s postphenomenological approach to the philosophy of technology, I will try to answer these question, starting with delineating an outline of the ways in which technologies influence and extend what we understand as the ‘human scale’ as well as the horizons of human ontologies. By identifying and categorizing the effects of our technology on the ways in which we perceive, understand, and operate in worlds, this essay will put into question the idea of ‘genuineness’ in relation to human existence and human kinds of ontologies. It will, moreover, problematize the essentialist understanding of the human scale.

## 5 – The effects of technologies on our ontologies and our understanding of the human scale

As already hinted in several occasions along the development of my argument, I consider the work of Don Ihde to be particularly useful in trying to reframe ontology as a projectual discipline in our progressively more technically-involved worlds and socio-cultural practices. Ihde’s postphenomenological perspective focuses on the ways in which technological artifacts (as well as the ways they are appropriated in social practices) influence our *lifeworld* as human beings. More specifically, in his 1990 book *Technology and the Lifeworld: From Garden to Earth*, Ihde presented his understanding of the perceptual and hermeneutic implications of technologies by analyzing the specific ways in which certain technologies contribute to how reality can be experienced and interpreted by human beings. In particular, Ihde outlined four different types of possible relationships between humans and worlds that emerge from technological mediation:

1. **EMBODIED RELATIONS:** in embodied relations, technologies form a *unicum* with the human beings involved in their uses. When engaging the world through embodied technologies, some of the limitations inherent in being humans are overcome by means of their technological supplementation. Talking to another person through the phone allows us to extend our possibilities to communicate beyond our native spatial scale; when in an embodied relationship with a microscope, our possibilities for perceiving the world extends to the scale of the individual cell. Ihde schematized the embodied relations that we can establish with specific technologies as follows:

(human + technology) → world

In this synthetic diagram above, the parentheses bracket human and technology as a single system (a *cyborg*); the arrow symbolizes an intentional stance towards something. In simpler words, in embodied relations with technologies, a new being emerges and deliberately addresses a world in ways that can be (non-exclusively) perceptual, cognitive, and operational.

2. **HERMENEUTIC RELATIONS:** This second group of technologies does not allow us to use our native senses in an extended or delocalized fashion, as was the case for the

embodied relationships, but rather provides us with an intelligible representation (or interpretation) of some aspects of reality that our native senses cannot perceive. Commonly cited examples of these kinds of relationships are the MRI scan (capable of revealing the electrical activity of the brain) and the metal detector. Ihde understood technologies that establish such an interpretative, hermeneutic relationship with human beings to be part of the world, rather than merged with the human beings engaging with them. He schematized the hermeneutic relation that we can establish with specific technologies as follows:

human → (technology + world)

- 3. ALTERITY RELATIONS:** Technologies establishing alterity relations with us do not filter or enhance our capabilities for interaction and perception, but are rather the *terminus* of our experience. As such, they often disclose new worlds for their users, artificial worlds whose experience temporarily set aside the experience and the interaction with the actual world. As Ihde explained, the world that we share as biological creatures does not have an active role as far as the interaction is concerned, but remains in the background of the experience. Commonly used examples to encapsulate alterity relations are getting money from an ATM machine or playing a videogame. Ihde schematized the alterity relations that we can establish with specific technologies as follows:

human → technology (world)

In this synthetic diagram of Ihde's, the alterity relations between human and technologies appear as happening in ways that are, to some extent, separated and independent from the actual world.

- 4. BACKGROUND RELATIONS:** In *Technology and the Lifeworld*, Ihde grouped in the fourth category technologies that work as the background contexts for human experience and action. The buzzing of fridges, the warm air from heating installations, email notifications popping up while one is busy writing a philosophical essay, *et cetera*. In these examples, as already mentioned at the end of the third section of this essay, technologies typically fade into the background of our conscious experience. When they establish background relations with human beings, technologies provide the unassuming setting for human existence, rather than emerging in our consciousness as objects of experience. Ihde schematized the background relations that we can establish with specific technologies as follows:

human (technology + world)

It is interesting to note that the absence of an arrow in this synthetic representation of Ihde's conception of background relations denotes the absence of a deliberate and conscious relationship between the human subject and a technological world.

In the first section of this essay I introduced a basic definition of what ontology is, that is to say a specific way to structure knowledge that emerges from our perceptual, cognitive and operational

relationships with a world. If we accept this fundamental definition, it follows that any relationships with technologies that enhance, extend, or dislocate our native perceptual, cognitive and operational ‘reach’ must be recognized as also having ontological effects on the human beings that engage with them. This point was already briefly introduced in the third and fourth section of this paper. The reason why I am bringing it up again in relation to Ihde’s work is that I believe that his fourfold categorization can help us better understand the various effects that our technologies have on the human scale and on human kinds of ontologies. In the following paragraphs, and starting from Ihde’s framework, I will try to identify changes in human scale and ontologies as ensuing from the four relationships that humans can establish with specific technologies.

1. Technologies establishing **EMBODIED RELATIONS** with human beings can be recognized as leading to the emergence of ontologies that could not be developed in our native relationships with the actual world. In this sense, technologies like the microscope, the telescope, the microtome, and brain implants effectively change the human being into a new, hybrid being. This hybridization typically leads to an extension of the human scale in terms of the perceptual, cognitive, and operational capabilities. In line with Donna Haraway’s work, I will call the ontologies that emerge from this form of technological supplementation ‘cyborg ontologies’ (Haraway, 1991). **In summary, embodied relations with technologies produce new, hybrid beings (cyborgs). As such, they have the effect of extending the human scale for perception, cognition, and agency, and give rise to cyborg ontologies.**
2. Differently from the previous case, technologies establishing **HERMENEUTIC RELATIONS** do not effectively produce a new, hybrid being, but rather enrich the native possibilities of our sensory tools and natural effectors. As such, they cannot be understood as factors of change in the human scale, but rather they broaden the spectrum of our possibility to interpret and understand a world that is already disclosed for us. In philosophical terms, these technologies allow – with the disclosure of new knowledge, rather than new beings or new worlds – for the restructuring and the deepening of prevailing ontological frameworks and categories. **In this sense, hermeneutic relations do not give rise to new beings, but to new knowledge about the world. As such, they cannot extend the scale of human perception and human agency, but allow for the structuring of revisionary ontologies.**
3. As briefly outlined before, technologies establishing **ALTERITY RELATIONS** can effectively disclose the experience of new worlds for their users. These new worlds temporarily bracket our experience of the world we share as biological creatures and ask us to conform to new perceptual, cognitive, and operational canons. The aesthetical qualities, the behaviors, and the interactive possibilities of these ‘other’ worlds bear no necessary logical dependence with the actual one, and disclose an artificial (and often unworldly) experiential field where human ontologies can be projected, extended, fragmented and distorted (Gualeni, 2015, 68). **Technologies establishing alterity relations with human beings allow for the effective experience and manipulation of new worlds. As such, they cannot lead to a change in the temporal or spatial scale that characterizes human beings in the actual world, but nevertheless give rise to the emergence of virtual ontologies<sup>7</sup>.**

---

<sup>7</sup> With a specific focus on the ontological effects of the experience of virtual worlds, my 2015 book *Virtual Worlds as Philosophical Tools* argues that digital simulations need to be recognized as extending, distorting, and fragmenting the perceptual, cognitive, critical, and operational capabilities of human beings. This augmentation allows us to

4. Technologies that establish background relationships with human beings work unobtrusively and largely unnoticeably on the background of already established relationships with the world. **As such, I do not consider technologies that establish BACKGROUND RELATIONS to have any explicit effects on the human scale or human kinds of ontologies.** This is not to say that they do not have a role in the formation of our ontologies: as already mentioned in the third section of this essay, they always implicitly contribute to our *lifeworld* and to the shaping of the inevitable process of human thought and reasoning called metaphorism.

In summary, through technological mediation we can engage the world in ways that evidently transcend the perceptual, cognitive, and operational possibilities of our biological bodies. Moreover, technologies can have distinctly identifiable effects on our capability to structure knowledge and elaborate thought as human beings. In particular, I categorized these technologically-aided ontological possibilities in three groups, based on their specific ways to augment our possibilities to understand worlds and operate in them.

- **CYBORG ONTOLOGIES** ensuing from the embodiment of technologies,
- **REVISIONARY ONTOLOGIES** stimulated by the development of new knowledge by means of technological mediation, and
- **VIRTUAL ONTOLOGIES** emerging from the disclosure of virtual worlds in our projectual and experiential relations with the digital medium.

On this basis, in the upcoming conclusive section, I will propose to reframe the discipline of ontology as a branch of philosophy oriented towards projectivity and characterized by historical dimension, rather than a purely descriptive, essentialist one. Inevitably, this proposition will also entail arguing for a contextual understanding of the concept of *mesoscopy*.

## 6 – Conclusions

Ontology has traditionally been understood as a philosophical discipline characterized by

- its focusing on structuring fundamental knowledge concerning the mesoscale of human beings, and
- its deliberately excluding contextual or historical factors in the structuring of such knowledge.

This understanding was exemplified in this essay by the essentialist perspectives of the early Heidegger and early Ferraris. In order to demystify this essentialist and ahistorical understanding of ontology, my essay articulated anthropological reflections on the socio-cultural effects of technological mediation. Such reflections revealed that the ways in which we structure ontologies as human beings cannot avoid being characterized by historical dimensions. In this sense, the study of

---

experientially transcend what is ‘actually present’ and can contribute to projectually shaping our thoughts and behaviors in virtual contexts. Those virtual contexts, besides, are themselves artefacts that can be designed and manipulated. This cultural shift towards modality and projectuality grants human beings the possibility to structure ‘virtual ontologies’ that are (at least conceptually) independent from the ones that we can structure in relation to the world that we share as biological organisms.

explicit ontological changes (ontological archaeology?) could become a useful sub-discipline that could assist us in the task of understanding cultural transformations as well as their connections with changes in our relationships with technologies and technological systems.

What follows from the observations offered in this essay is that the discipline of ontology can only be expected to be relevant and useful in our progressively more technologically-involved society if reframed as a projectual and historical discipline. What I am proposing, allow me to repeat it once again, is a repurposing of ontological methods and insights that can accompany socio-cultural practices in their historical process of change, and that can assist mankind in its projectual pursuit for meaning, balance, and self-discovery.

The need for the outlined reframing of ontology as a projectual discipline appears especially evident, in my opinion, when analyzing our relationships with the virtual worlds of videogames and computer simulations. Those technological systems vividly materialize mankind's tendency and aspiration to overcome the physical, perceptual, cognitive, and operational limitations that define our existence. Moreover, when taking the role of creators of virtual worlds (and not just of players, users, visitors, or spectators), the digital medium grants us a direct involvement in the design, construction, and manipulation of artificial worlds as well as in the disclosure of novel possibilities to structure ontologies. In this sense, virtual worlds are recognized as onto-logical machines: the artificial contexts where human kinds of ontologies can transcend the previously univocal relationship with the actual world, and where a new humanism has already begun to arise.

The envisaged reframing of ontology will not only entail its becoming more culturally contextual and sensitive to technological changes, but it will also involve re-thinking what we mean when we talk about the 'human scale'. As mentioned before, the reformulation of the concept of *mesoscopy* will need to cater for a historical and projectual understanding of the human being and, as such, it will be challenged to overcome essentialist stances.

## 07 – Bibliography

De Mul, Jos. 2002. *Filosofie in Cyberspace: Reflectie op de informatie- en communicatietechnologie*. Kampen (The Netherlands): Klement.

De Mul, Jos. 2015. 'Philosophical Anthropology 2.0 - Reading Plessner in the Age of Converging Technologies'. In De Mul, Jos (ed.). 2015. *Plessner's Philosophical Anthropology*. Chicago (IL): University of Chicago Press.

Dijksterhuis, Eduard J. *The Mechanization of the World Picture: Pythagoras to Newton*. Princeton (NJ): Princeton University Press, 1986.

Ferraris, Maurizio. 2002. "Inemendabilità, ontologia, realtà sociale". In *Rivista di estetica*, Vol. 19 N. 1, XLII, 160 – 199. Torino (Italia): Rosenberg & Sellier.

Floridi, Luciano. 2009. *Infosfera: Etica e filosofia nell'età dell'informazione*. Torino (Italy): G. Giappichelli Editore.

Gualeni, Stefano. 2015. *Virtual Worlds as Philosophical Tools*. Basingstoke (UK): Palgrave Macmillan.

Gualeni, Stefano. 2014. "Augmented Ontologies; or, How to Philosophize with a Digital Hammer". in Springer's *Philosophy of Technology*. 2013. Edited by Luciano Floridi, Vol. 27, N. 2, 177 – 199. Springer Netherlands.

Haraway, Donna. 1991. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century", in Haraway, Donna. 1991. *Simians, Cyborgs and Women: The Reinvention of Nature*. New York (NY): Routledge. 149 – 181.

Heidegger, Martin. 2008. *Basic Writings*. New York (NY): Harper Perennial – Modern Thought.

Heidegger, Martin. 1962 (1927). *Being and Time*. Trans. Macquarrie, J. and Robinson, E. San Francisco (CA): Harper & Row Publishers Inc.

Ihde, Don. 1990. *Technology and the Lifeworld: From Garden to Earth*. The Indiana series in the Philosophy of Technology. Bloomington (IN): Indiana University Press.

Plessner, Helmuth. 1980–1985. *Gesammelte Schriften*. Frankfurt am Main (Germany): Suhrkamp.

Plessner, Helmuth. 2006 (1928). *I gradi dell'organico e l'uomo*. Introduzione all'antropologia filosofica. Torino (Italy): Bollati Boringhieri.

Postman, Neil. 2005 (1986). *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*. London (UK): Penguin Books Ltd.

Verbeek, Peter-Paul. 2011. *Moralizing Technology: Understanding and Designing the Morality of Things*. Chicago (IL): The University of Chicago Press.

Wilson, Catherine. 2000. 'Vicariousness and Authenticity'. In Goldberg, Ken (edited by). 2000. *The Robot in the Garden: Telerobotics and Telepistemology in the age of the Internet*. Cambridge (MA): The MIT Press. 64-89.