Phenomenology and the Philosophy of Technology

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https://www.openbookpublishers.com

Bas de Boer and Jochem Zwier (eds), *Phenomenology and the Philosophy of Technology*. Cambridge, UK: Open Book Publishers, 2024, https://doi.org/10.11647/OBP.0421

ISBN Paperback: 978-1-80511-379-9
ISBN Hardback: 978-1-80511-380-5
ISBN Digital (PDF): 978-1-80511-381-2
ISBN Digital eBook (EPUB): 978-1-80511-382-9
ISBN HTML: 978-1-80511-383-6

DOI: 10.11647/OBP.0421

Cover image: photo by Engin Akyurt, leather fabric texture, November 12, 2022; https://unsplash.com/ photos/background-pattern--50ez9-BEMg
Cover design: Jeevanjot Kaur Nagpal

2. Towards a Hermeneutic Phenomenology of Technology

Alberto Romele

1. Introduction

The aim of this chapter is to discuss the significance of combining phenomenology and hermeneutics when studying technology from a philosophical perspective. The chapter is divided into two parts. The first section examines the relationship between phenomenology and hermeneutics. Hermeneutics challenges the idealism of Husserlian phenomenology, recognizing that our interaction with the world and its phenomena is always predetermined by symbolic, linguistic, and social factors. Instead of advocating for an ontological hermeneutic as Martin Heidegger and Hans-Georg Gadamer did, we propose an ontic and pragmatic, and partially realist, hermeneutic approach. On the other hand, drawing primarily on Paul Ricœur's work, we also demonstrate that there is a phenomenological assumption in all hermeneutics (namely, the assumption of meaning), and a hermeneutic assumption in all phenomenology (namely, the assumption of *Auslegung*—meaning exegesis, explication, and interpretation in German).

In the second section, we apply these ideas to the field of philosophy of technology, specifically postphenomenology. Our argument is that a hermeneutics of technology (which corresponds to an expanded version of program 2 introduced by Don Ihde) challenges the material idealism of postphenomenology as it currently exists (which corresponds to the development of program 1 alone). We also demonstrate that it is necessary and possible to establish a deeper connection between these

 https://doi.org/10.11647/OBP.0421.02

two approaches, which we refer to as a 'hermeneutic phenomenology of technology'. From an ontological perspective, this approach highlights the complex relationships between the conditions of possibility that individual technological artefacts are always embedded within. From a methodological perspective, it brings together studies that focus on the materiality of technological artefacts and their mediations, as well as those that examine conditions of possibility in different domains, such as symbolic, linguistic, cultural, social, and economic. Although most of the chapter is theoretical, in the conclusion we briefly mention our empirical research, in which we attempt to put these ideas into practice.

2. Hermeneutics and Phenomenology

The relationship between hermeneutics and phenomenology has always been complex. An illustrative example can be found in Heidegger's dedication of his seminal work, *Being and Time*, to Edmund Husserl 'in friendship and admiration' in 1927. However, concurrently, Heidegger confided to Karl Jaspers that, 'if the treatise has been written "against" anyone, then it has been written against Husserl' (Husserl, 1997, p. 22. In Crowell, 2013, p. 58). Simultaneously, Husserl struggled to see how Heidegger's work could contribute to his project of transcendental phenomenology. In a 1931 letter to Roman Ingarden, Husserl referred to Max Scheler and Heidegger as his two 'antipodes'—in this regard, see Crowell (2005). Over the subsequent years, the rupture between the two thinkers became definitive, driven not only by intellectual differences but also by Heidegger's alignment with the ideals of National Socialism.

It is essential to note that Heidegger's hermeneutical project remains fundamentally transcendental. Heidegger consistently seeks to go beyond preconceptions, such as values and worldviews, which are predefined. Beneath these preconceptions, he relentlessly searches for the 'sense of Being' that underlies the formation of our preconceptions. The answers to this inquiry may vary across historical and cultural contexts, but the central question always revolves around the sense of Being. Furthermore, for Heidegger, this issue is never limited to a specific *Dasein* that formulates a particular response to the ontological question concerning the Being of beings. Instead, his inquiry delves into why and how there exists a Being among beings, namely *Dasein*,

that poses the question about Being. For Heidegger, the projectuality of *Dasein* arises precisely from its capacity to pose such an ontological question. Nonetheless, Heidegger does not display an overt curiosity regarding the multiple ways in which life projects of single *Daseins* are either realized or thwarted. Consequently, it can be argued that the *Kehre* (the 'turn') in Heidegger's thought does not represent a mere turning point but rather embodies its most authentic realization.

However, the discussion we wish to engage in within this context does not concern ontological hermeneutics à la Heidegger. We believe that ontological hermeneutics represents the failure of the very essence of hermeneutics. Paradoxically, ontological hermeneutics is anti-interpretive. According to ontological hermeneutics, effective interpretive activity is that which prepares us to receive a sense that originates from an external source, specifically the sense of Being—in the subjective sense of the genitive. This perspective is evident both in the later Heideggerian philosophy, post-*Kehre*, and in the teachings of Gadamer. Although Gadamer emphasizes the significance of dialogue, he posits that meaning does not arise from the interaction of the two participants but rather breaks through as an Event between them. Likewise, a work of art does not possess inherent value; its value lies only in its ability to convey the sense of Being. The role of the spectator/reader/listener of an artwork, in turn, is not to construct meaning but to receive it in the appropriate manner. When we speak of anti-interpretive tendencies, we mean that human beings are virtually deprived of their capacity for initiative, since the only possible initiative is that which leads to a meaning that is already always determined by Being itself. In addition to being anti-interpretive, ontological hermeneutics is also anti-communicative: indeed, the only successful communication is that which subjects the two interlocutors to the aegis of the meaning of Being. We have previously developed this critique of ontological hermeneutics in detail, as can be found in Romele (2014).

Our focus here centres on how a non-ontological hermeneutic approach can contribute to the deconstruction/destruction of Husserlian transcendental phenomenology. By 'non-ontological hermeneutics', we mean an ontic, and more specifically pragmatic, hermeneutics. An ontic hermeneutics concerns itself with the diversity of preconceptions that mediate our relationship with the world. It is worth noting that the

term 'preconception' can be somewhat misleading. As we will explore later, our connection to the world is mediated not only by symbolic and conceptual elements but also by material and technological factors. A pragmatic hermeneutics is preoccupied with, or at least acknowledges, the processes of creation and reception of meaning, the character of which is symbolic—that is, historical, social, cultural, and so forth.

One of the main problems with symbolic mediations is their tendency to be themselves always symbolically mediated. We are confronted with what Charles Sanders Peirce and Umberto Eco referred to as 'unlimited semiosis'. On the one hand, there is an interpreter who tries to grasp the link between a signifier and a meaning; on the other hand, there is an interpretant which is a second signifier which points out in what sense a certain signifier can be said to convey a given meaning. But since this second signifier is itself a sign, in order to be understood it needs another sign—that is, another signifier (see Volli, 2002, p. 27).

Indeed, semiosis is never truly unlimited; it extends only as far as one finds satisfaction, typically when temporary consensus is reached between interlocutors. Pragmatic hermeneutics acknowledges that the truth value of an interpretation of the world is never absolute but always contingent upon the context. Furthermore, we should not presume that the validity of an interpretation of a specific aspect of the world within a particular context is solely determined by its utility to the greatest number. It is evident that certain interpretations of the world may serve the interests of a select few, while others may benefit no one at all. To assume that there is no vested interest behind our interpretations of the world is, of course, naïve. However, to believe that there is always a hidden agenda behind our interpretations might be an overestimation of our capabilities.

Lastly, it is important to clarify that when we refer to 'signs', we are not exclusively talking about symbolic or conventional signs, such as the letters of the alphabet. For most human beings, who are unavoidably engaged in interpretation, the world is composed of signs. The assertion that 'we cannot not interpret' does not imply that we are constantly engaged in interpretation. Interpretation is an activity we engage in when something ceases to be self-evident to us. As the concept of 'hysteresis' teaches us, we often persist in applying our interpretations of the world even when they no longer effectively explain our experiences.

Yet, behind every interaction with the world lies an interpretation, at times active and dynamic, and at other times passive and habitual—for a comprehensive overview, see Michel (2019). In short, what we mean is that instead of distinguishing between interpretive and non-interpretive states, one should distinguish between different degrees of interpretation, the two poles being the quasi-absence of interpretation (an 'unintelligent' habit) on the one hand, and the most driven creative activity (what the Romantics called 'genius') on the other. The point is that interpretation is a state that, despite its intensity, characterizes a specific way of being and of dwelling in the world.

This approach, which acknowledges the constant mediation between the self and the world and recognizes the contextual nature of this mediation, has profound implications for phenomenology, especially Husserlian idealism.[8] Paul Ricœur (1991) offers a comprehensive discussion on how hermeneutics can be positioned in opposition to Husserlian idealism. For instance, within Husserl's philosophy, there is a pursuit of scientific rigor (distinct from that found in the natural sciences) that drives him to seek an 'ultimate grounding', to explore 'real beginnings', and to grapple with the concept of 'paths toward the beginning' devoid of any presuppositions. However, as we have just observed, hermeneutics considers presuppositions as an integral aspect of our existence in relation to the world.

In Ricœur's words (1991, p. 29), 'the ideal of scientificity, constructed by Husserl as the ultimate justification, encounters its fundamental limit in the ontological condition of understanding'—which he immediately further elucidates as 'finitude'. From a hermeneutic perspective, the quest for the ultimate foundation is the result of a prejudice/illusion—

8 Husserl's idealism is considered the paradox par excellence of classical phenomenology. On the one hand, phenomenology requires us to be as close as possible to the things themselves and to suspend our judgements to let things appear as they appear. On the other hand, however, this proximity to the things themselves and this suspension of all judgements and prejudices is seen as only the first step in an epistemological process that should enable us to grasp things in their purest ideality—that is, in their authentic being. As is well known, Husserl revised his idealist positions in the last part of his life. The interesting move proposed by Ricœur in his interpretation of Husserl is to show that the presuppositions of the critique and revision of idealism via hermeneutics were already present in two works belonging to the idealist period, such as the *Logical Investigations* and the *Cartesian Meditations*. In this respect, see below.

specifically, the prejudice/illusion that objectivity serves as the foundation for 'true' and 'just' knowledge—though this bias remains concealed within itself. Pierre Bourdieu (1990) introduces the concept of the 'scholastic point of view', famously characterizing it as the particular standpoint of those who believe they possess no particular standpoint on the world. Consequently, they regard their perspective on the world as the universal worldview. Bourdieu's critique is directed at academics in general, with philosophers being a particular focus. It could be said that idealist phenomenologists exemplify the philosopher archetype, embodying the academic ensnared by their own scholastic illusion. While phenomenology calls for a return to intuition, hermeneutics counters this by asserting that all understanding is inherently mediated by interpretation. In this sense, even the purest intuitions are, in essence, 'dead' interpretations.

Another crucial aspect emphasized by Ricœur is that of subjectivity. In Husserlian idealism, the realm of ultimate foundation resides within subjectivity, where all transcendence remains uncertain, and only immanence is beyond doubt (Ricœur, 1991, p. 33). In this context, it becomes evident that Heidegger's ontological hermeneutics already introduces a profound departure from this perspective. *Dasein* is distinguished from other beings precisely because it is ontologically constituted by the question that pushes it towards the sense of Being and hence Otherness. Regarding ontic hermeneutics, Ricœur provides a model based on the concept of text. Since the text has achieved autonomy in relation to its author, the interpreter's objective is not to reconstruct the author's intentions. If anything, it is to grasp the 'world of the text'.

To bring these ideas closer to the philosophy of technology, two points can be made. First, from a hermeneutic standpoint, every technology represents an alteration in our relationship with the world. In certain cases, technology is even materially constitutive of our own bodies and its intentionalities. In other words, technology (even when embodied) is always an otherness that pushes subjects beyond solipsism. Through technology, the self is always already open to a multiplicity of otherness. Second, it is essential not to romanticize (as Ricœur and other hermeneutic thinkers tend to do) the autonomy of the text—and consequently, the autonomy of every other hermeneutic technology—from the author's intentions. While it is true that technology can produce unforeseen

effects, a critical hermeneutics must also explore the intentions of the author or creator, as this inquiry can reveal preconceptions and interests that may be unknown to the creator or deliberately embedded. An illustrative example is the debate surrounding the alleged racism of Robert Moses (Winner, 1980).

What we are saying, in short, is that there is a certain tendency in the philosophy of technology to make technologies autonomous from the intentions of their creators. In addition to Anglophone traditions, we are thinking here of French philosophy of technology, in particular Gilbert Simondon. The proliferation of autonomous technologies such as generative AI reinforces the idea that the consequences of a technology are always beyond the control of its designers. However, we think it would be necessary to pay more attention to those 'success stories', which we think are numerous, in which designers succeed in imprinting their intentions on technical artefacts while at the same time hiding the traces of those intentions. Just like a good novelist.

Now, while hermeneutics may seem to challenge phenomenological idealism, it is possible to envision a less confrontational relationship between phenomenology and hermeneutics. According to Ricœur, there exists a phenomenological presupposition of hermeneutics, just as there is a hermeneutical presupposition of phenomenology. The phenomenological presupposition of hermeneutics is that 'every question concerning any form of "being" ultimately pertains to the meaning of that being' (Ricœur, 1991, p. 38). It is well known that the phenomenological approach prioritizes the appearance (the *phainestai*) of things to the self. In *Being and Time*, Heidegger asserts that 'phenomenology' means '*apophainesthai ta phainomena*', or 'to let thatwhichshowsitselfbeseenfromitself in the very way in which it shows itself from itself' (Heidegger, 2007, p. 58). Heidegger acknowledges the primordiality of the appearing of beings for the *Dasein*. Yet, in a phenomenological (and, in some ways, still transcendental) attitude, he aims to demonstrate that appearance does not distort the essence of beings but fully reveals it. Heidegger contends that phenomenology seeks to elucidate how beings appear to us 'from themselves'—even if this 'from themselves' is ultimately related to the historicity of Being. For us, this represents an inherent contradiction. We propose a simpler solution, eliminating the need for an ultimate donation or

revelation. Instead, we maintain that the foundation of a non-idealist phenomenology lies in the idea that the things of the world reach us through their appearance, which ultimately is nothing more than their always-being-meaningful-for-us.

To assert that the things of the world (beings) present themselves through appearance does not imply a complacency with immediate reality. In phenomenology, one of the pivotal concepts is *epoché*, the suspension of the conventional, everyday relationship with the world. One could describe *epoché* as the act of becoming conscious of a meaningful relationship to the world precisely through the temporary suspension of this lived experience of meaning. Consider Heidegger's famous example of the hammer: the breaking of the hammer, which makes its ready-to-hand appear, is an invitation of the thing itself to *epoché* with respect to its being ready-to-hand. Put simply, it is in the moment when we reflect on our relationship with worldly things that we discover that our connection is not primarily with the objects themselves but rather with things in the way they are meaningful and useful to us. This concept, as frequently highlighted by Ricœur, is not significantly different from what hermeneutics refer to as 'distanciation'. Hermeneutical distanciation involves becoming aware of the biases that mediate our connection to the world. It does not mean, however, to renounce to them. In Heidegger's terms, it therefore in no way means privileging the being present-at-hand of things.

An open point of discussion in our view relates to the linguistic nature of experience and, consequently, the appearance of the world to us. According to Ricœur, linguisticity does not occupy a primary role in hermeneutics, at least not in the hermeneutics of Heidegger and Gadamer. It is indeed true that Gadamer commences his major work, *Truth and Method*, not by delving into language but by discussing artistic experience. Additionally, Heidegger's practical dimension appears to have a broader scope than language. However, we believe that the prelinguistic models within hermeneutics are still constructed upon the linguistic paradigm of transmitting and reconfiguring meaning in a logical and linear manner. If this assertion holds true, then it would be reasonable to regard phenomenology as a corrective to the logocentrism—and particularly the textocentrism—that characterizes the entire hermeneutic tradition.

The hermeneutic presupposition underlying all phenomenology is 'the necessity for phenomenology to conceive of its method as an *Auslegung*, an exegesis, an explication, an interpretation' (Ricœur, 1991, p. 43). According to the French philosopher, *Auslegung* is already evident in both the *Logical Investigations* and the *Cartesian Meditations*. In the latter, the concept of *Auslegung* appears to resolve an essential paradox: the requirement that otherness must be phenomenologically constituted both 'within me' and 'as other than me' simultaneously. In this context, Ricœur (1991, p. 51) writes, '*Auslegung* does nothing more than unfold the surplus of meaning that, in my experience, indicates the place for the other'. Indeed, what does it mean to interpret? It means, above all, to acknowledge that there is something significant outside of us, whose meaning is not entirely contingent upon us. The act of interpreting the world begins with the conviction that there is something external to us that requires interpretation and understanding. One could describe *Auslegung* as the intersection of meaning intentions originating from the interpreter and those emanating from what is being interpreted. Otherness is no longer confined within me, as it might be in a solipsistic interpretation of phenomenology. The subject remains open to otherness, and otherness itself becomes a horizon of understanding. This, we might assert, ensures the openness of interpretive activity. In this context, one might employ the interpretive semiotic distinction between the immediate object and the dynamic object. Here, 'object' is not juxtaposed against 'subject'. The immediate object is what appears 'as the sign represents it' (in phenomenological terms, the thing in its appearance). On the other hand, the dynamic object, as Peirce famously elucidates, is 'truly efficient but not immediately present'. It is the raw data that eludes us. It is perpetually subject to interpretation but also beckons us to interpret it to some extent. Without this 'call', interpretation would not occur, and if there were no interpretation of something beyond itself, then there might not even be a subject, a 'self as another'. Incidentally, there is a huge difference between the ontic idea of dynamic object and the ontological idea of sense of Being. First, it is clear that the dynamic object is by nature multiple and minor, whereas the sense of Being is monolithic. Of course, for Heidegger there are the multiple variations of its historical giving, but these variations are, so to speak, for our own sake. Second, dynamic objects have affordances, but

they certainly do not have or make sense. Dynamic objects are silent; in short, they are simply what they are and carry no message for us. We cannot go into the details of the discussion here, but two important references for us are Alain Robbe-Grillet's (1992) theory of the new novel and Maurizio Ferraris' (2014) new realism.

3. Phenomenology and Hermeneutics of Technology

In the preceding section, we delved into the essential relationship between phenomenology and hermeneutics. Phenomenology serves as the foundation of hermeneutics, at least for any hermeneutics that aspires to be more than just a technical guide for accurate text interpretation. Similarly, phenomenology requires hermeneutics to transcend solipsism. Hermeneutics, at its core, implies an orientation towards what exists outside of ourselves, guided by the belief that the external world is not merely a reflection of our consciousness but possesses its own messages and teachings. Even when hermeneutics is understood as a 'hermeneutics of the subject', it interprets the subject in light of the layers of otherness that exist in us independently of us and that can (and want to) communicate with us.

It is worth noting that this idea according to which something always exists outside of us—not as a singular Being but as a multitude of distinct beings—is what renders hermeneutics incompatible with certain exaggerations of deconstructionism, nihilism, or pragmatism in the vein of Richard Rorty. In this context, Eco (2000) recounts a dialogue between himself and Rorty that occurred during the Tanner Lectures in 1990. In response to Rorty's proposition of a radical interpretivism,[9] Eco argues that a screwdriver can indeed serve various purposes. Beyond just screwing, it can be used, for instance, to open a package. However, it would be unwise to employ it for cleaning one's ears, as it is too long and sharp for precise control by the hand. This perspective underscores the ontic and pragmatic nature of hermeneutics and underscores its

9 It is beyond the scope of this paper to answer the question of whether Eco's critique of Rorty is honest or whether it makes Rorty into a straw man. For example, are we sure that Rorty or, in the specific field of hermeneutics, Vattimo, would apply their radical interpretivism (or 'flexibilism') not only to texts and their contents, but also to other technical artefacts and their materialities?

realism and materialism—for insights into the limits of interpretation, see Eco (1994).

It is customary to view hermeneutics as a product of the linguistic turn that dominated philosophy and the humanities and social sciences for much of the twentieth century. However, this view is inaccurate, both in terms of historical and theoretical considerations. Historically, hermeneutics has consistently focused on the materiality of objects, particularly texts. It is not coincidental that the term 'material hermeneutics' first appeared not in Ihde or Peter-Paul Verbeek (2003) but in the work of philologist Peter Szondi (1995). Theoretically, hermeneutics—particularly existentialist and ontological hermeneutics as exemplified by Heidegger and Gadamer—represents a relatively brief episode, almost a misunderstanding, within a discipline that has always been concerned with objects and methodologies. Even when engaging with 'worldviews', hermeneutics does not assume immediate accessibility to them. Instead, understanding 'worldviews' necessitates a study of the 'Objective Spirit'—that is, the material concretizations of a culture or society. Think here of the later work of the later Wilhelm Dilthey and then of a broader tradition of hermeneutics that encompasses thinkers such as Ernst Cassirer and Erwin Panofsky. For instance, Panofsky developed 'iconology' as a method for investigating worldviews by analyzing the traces of these worldviews in artworks. Incidentally, it is worth mentioning that the same existentialist and ontological hermeneutics of Heidegger and Gadamer is developed according to a method of archaeology of texts and concepts that is very close to that of methodological hermeneutics—although with a certain fondness for interpretations that purport to be literal but are in fact often allegorical.

In this section, we aim to extend the discussion from the previous section into the realm of the philosophy of technology, specifically within the context of postphenomenology. Our first idea is that, to some extent, the hermeneutics of technology challenges certain phenomenological assumptions that underpin contemporary philosophy of technology. Our second idea is that, beyond this apparent conflict, we can and should explore a more intricate interplay between phenomenology and hermeneutics within the philosophy of technology.

In what sense does the hermeneutics of technology challenge the

phenomenology of technology? To address this question, we must first clarify what we mean by the 'phenomenology of technology'. In this context, the phenomenology of technology refers to the tendency of postphenomenology to define itself in accordance with the 'program 1' of postphenomenology outlined by Ihde (1990). Specifically, we are referring to the tendency of the postphenomenological school to place the relationships among the self (I), technology, and the world at the core of its investigations. From a theoretical perspective, this involves the exploration of novel types of relationships—cyborg relations, immersive relations, and so forth. From a practical standpoint, it entails utilizing the framework of I-technology-world relations to examine the uses and mediations of specific technologies. This approach retains a phenomenological dimension, since it is concerned with the manner in which the world appears to us. It also assumes that this process of 'appearing' plays a central role in our relationship with the world and, consequently, in the manner in which we construct ourselves as subjects. However, it is also distinctly postphenomenological, as it no longer exhibits, at least on the surface, traces of transcendental idealism. Indeed, as one becomes increasingly aware of the near-inevitability of the presence of a third element between the subject and the world, one concurrently acknowledges the impossibility of rendering things to appear as they are in themselves (the concept of '*apophainesthai ta phainomena*' discussed earlier). Of course, traces of such an approach can already be seen in post-Husserlian phenomenology, notably in the works of Maurice Merleau-Ponty. Yet, the merit of Ihde's postphenomenology, which openly acknowledges its indebtedness to Merleau-Ponty, rather than Husserl, is its explicit emphasis on this aspect.

So, in what manner can we still invoke idealism within the context of postphenomenology? At first glance, there appears to be nothing idealistic about a philosophy that places material mediations, particularly technological mediations, at its focal point. This approach entails a complete acceptance that objects will never present themselves to us precisely as they intend to be seen. Instead, they will invariably differ from their intended appearances when presented to us. The objective of postphenomenology is not to eliminate technological mediations but rather to accentuate their role—not necessarily to embrace them unquestioningly, but also to subject them to scrutiny if they induce

distortions with significant implications, especially from a societal perspective. However, on closer examination, postphenomenology exhibits a form of 'materialist idealism'. By this term, we denote postphenomenology's inclination to suspend (in the sense of the phenomenological *epoché*) the judgment towards all non-technological mediations. Often, these non-technological mediations—of a symbolic, social, or cultural nature—mediate the same technological mediations that interest postphenomenology. We are not suggesting that the relationship between these mediations must necessarily be hierarchical, but it is undoubtedly valuable to investigate cases where technological mediations are hierarchically subordinate to other forms of mediations. Such inquiries serve to deconstruct the materialist idealism inherent in certain strands of postphenomenology.

For instance, during our fieldwork at a lower limb prosthesis centre, we made two significant observations. First, we found that the concept of 'cyborg relations', at least in this context, does not hold true. The idea of a 'cyborg relationship' is more a product of imagery rooted in social and cultural influences than a technological reality. In reality, there is never a complete fusion between the human body and technology; instead, there exists a series of technological mediations. The prosthesis never seamlessly integrates with the body; it never becomes transparent in its usage. Various technologies mediate other technologies to bridge the insurmountable gap between humans and technology. For instance, a typical lower limb prosthesis consists of a rigid frame; within this frame lies a socket made of plastic or laminated material; the socket attaches to the body through a soft polyurethane or silicone liner worn between it and the residual limb; additional prosthetic socks, made from wool, nylon, or synthetic fabric, may be worn with the liner to ensure a better fit since the size of the residual limb can vary; these socks may come in different thicknesses. Furthermore, in the spaces that inevitably persist between the residual limb and the socket, sweat accumulates, especially in hot weather. Wearing a prosthesis, something many of us take for granted, entails having a part of one's own sensitive body encased in plastic, polyurethane, silicone, wool, nylon, or similar materials for extended periods. Amputees must clean or change their liners at least three times a day to prevent dermatitis and other medical issues. In these moments, the technology does not merge with the body but rather

stands out, akin to Heidegger's famous example of the hammer—these observations are detailed in Romele (2023, p. 28).

Second, we discovered that the separation between the body and the prosthesis can indeed be bridged, but solely through symbolic, social, and cultural mediations. In other words, in this context, symbolic mediations serve as the conditions of possibility for a particular type of material relations. In our research, we specifically observed the presence of posthumanist and transhumanist protoimaginaries among both patients and staff at the prosthetic centre, even among individuals who might initially appear more 'realistic' and 'pragmatic'.

In summary, it can be argued that the hermeneutics of technology dismantles the empiricist bias that prevails in much of contemporary philosophy of technology. By 'empiricist bias', we mean the tendency to want to focus only on 'concrete artifacts'—while unwittingly smuggling in posthumanist and transhumanist proto-imaginaries. The reasons for this bias are well-documented and are closely linked to the discipline's 'empirical turn'. It can be argued that at a certain point, the philosophy of technology, having relinquished ontological and theological aspirations akin to those of Heidegger and Jacques Ellul, found itself caught between two conflicting forces: the technical aspects of engineering work and the socio-cultural considerations explored by disciplines such as media studies.

Of course, we are not the first to criticize the empiricism prevalent in postphenomenology and contemporary philosophy of technology. However, in this context, we also want to emphasize the importance of considering the relationship between the phenomenology and hermeneutics of technology. By the term 'hermeneutics of technology', we refer to something akin to Ihde's 'program 2' within postphenomenology. In this program, Ihde focuses on the cultural hermeneutics of technology, exploring how the use of a technology varies in response to cultural (and, although Ihde does not explicitly specify, social) differences. An illustrative example is Ihde's account of sardine cans left by Australian explorers in the New Guinea highlands in the 1930s. These cans were transformed into elaborate headdresses worn by New Guineans on special occasions. In this regard, there is already substantial research on 'technology transfer' from one culture or society to another. Similarly, in what concerns the social aspects,

extensive research exists—although not primarily within the realms of postphenomenology or philosophy of technology—that investigates how the use of the same technology varies with changes in social class. For instance, studies have demonstrated that the Internet, at least in the early days of social networking, was used out of necessity by lower-income individuals, while it served as a platform for serious leisure among wealthier ones (Robinson, 2009).

It is worth noting that program 2 has been largely overlooked by the postphenomenological school, which has predominantly favoured program 1. This partiality has, to some extent, severed the original intent of Ihde's project. We contend that, therefore, postphenomenology is not just an incomplete project but rather a failed one. In a sense, Ihde recognizes the necessity of integrating these two programs when he introduces the concepts of micro-perceptions and macro-perceptions. Micro-perceptions are grounded in perceptual phenomenology, while macro-perceptions involve cultural and hermeneutical dimensions:

> What is usually taken as sensory perception (what is immediate and focused bodily in actual seeing, hearing, etc.), I shall call microperception. But there is also what might be called a cultural, or hermeneutic, perception, which I shall call macroperception. Both belong equally to the lifeworld. And both dimensions of perception are closely linked and intertwined. There is no microperception (sensory-bodily) without its location within a field of macroperception and no macroperception without its microperceptual foci. (Ihde, 1990, p. 29)

For us, program 2 should be understood in a broader context than Ihde himself presents. By solely confining it to a cultural and social hermeneutic of technology, one might erroneously conclude that technologies are perpetually ensconced within preexisting social and cultural frameworks. However, it is essential to remember that technologies themselves actively participate in the construction and reconfiguration of 'semiospheres'. Technologies are not mere neutral entities, transparent in their use, nor are they solely the embodiment of established social and cultural practices. They play an active role in the reconfiguration of these practices and the creation of new ones. In essence, one must comprehend the relationship between the material and symbolic aspects of technologies through the lens of the hermeneutic circle, denoting their interdependence. We insist that this is not simply an

unfinished project, but a failed one, as a lintel supported by a single pillar would be. Just think of the determinism of certain orthodox readings of Karl Marx, according to which everything that is not material (be it religion, art, or law) is an illusion. This materialism prevented, among other things, an understanding of the power of imaginaries (symbols, culture, etc.) in the construction (as well as the deconstruction) of social reality—for a critique of the economic materialism of the young Marx, see Ricœur (1986). Focusing on programme 1 of postphenomenology leads to not only an incomplete answer, but precisely a wrong answer as to what a technological artefact is, its conditions of possibility, and its consequences. And it is no coincidence that even the most classical postphenomenology has in recent years incorporated more and more symbolic, value, and cultural elements without, however, reforming its theoretical framework.

If our prior assertions regarding the description of technological reality hold true, then they should also be valid and supportable from a methodological standpoint. In other words, to empirically study technological mediations, one must employ both phenomenology *and* hermeneutics, specifically adopting a hermeneutic phenomenology of technology. This implies that a technology should be scrutinized *both* in terms of its mediations and the conditions of possibility that enable these mediations. While hermeneutics has conventionally been concerned with symbolic, cultural, or linguistic conditions of possibility, a broader perspective demands hermeneutic phenomenology of technology to examine additional conditions of possibility—think of Cassirer, who explored various symbolic forms, including technology and economics, recognizing the latter's preeminence over the former. It could be said that technologies are all 'boundary objects' at the intersection of different domains that, precisely around the object, confront or conflict with each other. Of course, we can act 'as if' technology depends exclusively on itself or on only one of these conditions of possibility, but this will still be an epistemological and methodological fiction or convention. For example, I can pretend that Artificial Intelligence (AI) is only a technology, but I will not be able to understand how the current status of this technology also, and perhaps especially, depends on being embedded in a specific economic system that favours forms of consumption and waste. Nevertheless, it

is evident that such an endeavour appears more akin to a collaborative research program encompassing multiple researchers, each with their own objects and methodologies, rather than an individual's pursuit. In the conclusion, we aim to show how we are trying to implement such a methodology in our research and thereby contribute to the development of a discipline.

Before proceeding, it is essential to provide an important clarification. There is indeed an empirical interpretation of the relationship between phenomenology and hermeneutics within the framework of postphenomenology, which we believe significantly differs from what we refer to as the 'hermeneutic phenomenology of technology'. Verbeek (2001, p. 128), in his explication of Ihde's work, elucidates that:

> [e]mbodiment relations and hermeneutic relations can be viewed as the extremes of a continuum: As we move on this continuum of embodiment to hermeneutic relations more toward the hermeneutic pole, the transformation that reality undergoes in the mediation is one of progressively higher contrast: the perception effected by the mediation deviates ever more sharply from unmediated perception. [...] The 'space' available for reality to express itself becomes more restricted as the mediation of our perception becomes more hermeneutic in nature.

In this context, phenomenology and hermeneutics are seen as two distinct but interconnected dimensions within the same discipline, and as methods for studying technological mediations. Yet, in our view, to put phenomenology and hermeneutics on the same plane of empirical analysis of technological mediations is to fail to recognize an important part of the specific contribution that hermeneutics can make to the philosophical study of technologies. The concept of 'hermeneutic mediation of technologies' should be understood not only in the subjective genitive sense but also in the objective sense, implying that technologies themselves are always *objects* of hermeneutic mediation.

4. Conclusion

Instead of retracing the various stages of this chapter, in the conclusion, we would like to briefly refer to our empirical work. Indeed, it is within these works that we strive not only to theorize but also, and above all, to practice a hermeneutic phenomenology of technology.

In our ongoing research, we focus on visual and textual representations of AI. The underlying idea is that to fully grasp the materiality of AI, including its practical efficacy, we must also consider the discourses surrounding AI. Science communication literature has long established that science communication goes beyond the straightforward transmission of knowledge and can substantially impact how science is perceived and engaged with by society (Bucchi, 1996). Science articles in popular media, for instance, are not just simplified science lessons; they are intricate entities that mobilize everyday conceptions, moral judgments, character depictions, and interpersonal relationships.

Recently, we conducted research analyzing the usage of the expression 'AI ethics' through discourse analysis of eight newspapers from four European countries. Our hypothesis was that 'AI ethics' had become a 'floating signifier'.[10] This concept, introduced by Ernesto Laclau (2005), refers to terms or concepts that are sufficiently polysemous to be interpreted, understood, and strategically employed in various ways by different social groups for hegemonic purposes. Our empirical analysis confirmed this hypothesis and revealed three distinct discursive uses of 'AI ethics': institutional use emphasizing normativity, academic use—particularly in the humanities and social sciences—focusing on critique, and business use approaching it as techno-solutionism. Our intention was not to pinpoint a definitive definition of AI ethics or assess the ethical nature of specific AI systems but to examine the different and often conflicting ways this term is used and understood. Paradoxically, before being an ethical concept, 'AI ethics' is deeply political. Different techno-political agendas compete over the definition of what should be considered 'AI ethics'.

This approach does not undermine the importance of addressing AI ethics but underscores that how we address concrete questions about AI ethics is always context-dependent, particularly within political and social contexts. It highlights the need to engage in what we term the 'politics of AI ethics'. This, in our view, exemplifies a 'phenomenological hermeneutics of technology'. Methodologically, we have attempted to integrate a material approach, such as discourse analysis (Jørgensen & Phillips, 2002), with theoretical analysis. Philosophy, in this context,

10 This unpublished research in English will be published in the French journal *Interfaces numériques*.

learns from other disciplines, notably media studies. Inspired by Ricœur's idea that there is no dichotomy between method and truth—as suggested, instead, by Heidegger and Gadamer—we believe that more extensive explanation is necessary for a deeper understanding. From a results perspective, our transcendental analysis (concerned with the conditions of possibility for a particular technological implementation) demonstrates that these very conditions significantly impact the reality of the AI systems that will be implemented.

One may question whether a politics of AI ethics can still be considered hermeneutic, as hermeneutics (and phenomenology) has historically been hesitant to engage in ethical and political reflections—and sometimes leans towards conservatism. However, it is crucial to note that there are efforts to develop political hermeneutics, as exemplified by Vattimo and Zabala (2014). Moreover, we have no qualms about asserting that hermeneutics should be open to insights from other disciplines and theoretical perspectives. The idea that hermeneutics and phenomenology, even when combined, can provide an exhaustive account of a technology and its multiple consequences is untenable. As we discussed earlier, at the core of hermeneutics lies a call to engage with otherness, to that which exists outside itself, and this extends to the discipline itself.

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