

PHENOMENOLOGY AND THE
PHILOSOPHY OF TECHNOLOGY

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5. Technological Mediation without Empirical Borders

Martin Ritter

Introduction

Postphenomenology is oftentimes seen as *the* approach elucidating how technology transforms experience. Phenomenologically speaking, it promises to show how technology conditions the appearance of phenomena. In this chapter, I evaluate its ability to fulfil this task. I intend to demonstrate how, to bring out its full potential, postphenomenology must revisit its basic concepts and adjust its method. The chapter is divided into two main parts: first, I critically analyze the shortcomings of postphenomenology, and second, I suggest modifications to it. In the first, longer part, after briefly recalling the hallmarks of postphenomenology, I focus on its (missing) concept of technology, its theory of technological mediation, and its method. I assess the soundness of these elements and expose their limits.¹ Based on these critical reflections, in the second part I outline the basic contours of a modified, phenomenological postphenomenology.

1. The Basics

Postphenomenology is inseparably linked with the name of Don Ihde, its founder, who used this label in 1993 to designate the method he had been practicing already for two decades (Ihde, 1993). In 2006,

1 My inevitably schematic reflections cannot do justice to all the meritorious work done by postphenomenologists. Their aim is to identify the limits we must transcend to elucidate the technological mediation of experience.

he identified three distinctive characteristics of postphenomenology (Ihde, 2009, pp. 9–23). First, it is a phenomenological approach, yet quite radically transformed by pragmatism. Whereas Edmund Husserl drew heavily on early modern epistemology, and hence succumbed to subjectivism, John Dewey overcame psychologism by basing his analyses on an organism/environment model rather than a subject/object model. In Ihde's eyes, we need this pragmatic ontological framework to adequately understand experience. On the other side, postphenomenology takes some useful concepts from phenomenology, especially those of variational theory, embodiment, and lifeworld. In the case of variational theory, Ihde draws exclusively on Husserl, whereas he acknowledges the concepts of embodiment and lifeworld as significantly enriched by Martin Heidegger and Maurice Merleau-Ponty. Thanks to pragmatism, we understand that there is no purely subjective consciousness: (subjective) experience is always physically, materially, and socio-culturally embedded. Thanks to phenomenology, we can analyze experience using variational theory while acknowledging the role of embodiment and situating our life in a specific lifeworld. The third characteristic, which makes postphenomenology fully contemporary, is the inclusion of technoscience studies. Ihde fully embraces the so-called empirical turn in the philosophy of technology: we need to stay away from abstract generalizations about technology and focus instead on concrete technologies in their particularities.

In *A Field Guide to Postphenomenology* (2015), Robert Rosenberger and Peter-Paul Verbeek specify the *modus operandi* of postphenomenology. Due to its 'practical and material orientation, postphenomenology always takes the study of human-technology relations as its starting point' (Rosenberger & Verbeek, 2015, p. 31). Accordingly, it analyzes various roles that technologies play in human-world relations and aims at elucidating '*how, in the relations that arise around a technology, a specific "world" is constituted, as well as a specific "subject"*' (Rosenberger & Verbeek, 2015, p. 31, emphasis in the original). Crucially, such a philosophical reflection always presupposes empirical work as its basis, usually in the form of case studies. This empirical starting point has its counterpart in a pragmatic outcome of the analysis: '*postphenomenological studies typically make a conceptual analysis of the implications of technologies for one or more specific dimensions of*

human-world relations—which can be epistemological, political, aesthetic, ethical, metaphysical, et cetera’ (Rosenberger & Verbeek, 2015, p. 31, emphasis in the original). It is not enough to describe how technologies change our experience: we must critically assess the consequences of these mediations.

Regarding these consequences, postphenomenology emphasizes the possibility of (re)designing how technologies shape our lives. This emphasis is partially responsible for the impression that its approach is techno-optimistic in contrast to older, predominantly pessimistic conceptualizations of technology. According to postphenomenology, we must focus on particular technologies as it is the only way to both realistically appreciate their impact and pragmatically influence it. This is nicely captured by the subtitle of Verbeek’s book *Moralizing Technology* (2011): ‘Understanding and Designing the Morality of Things’. Technologies do shape our actions, but we should not focus—negatively—on protecting humans from the detrimental effects of new technology. Rather, we need to ‘accompany’ technologies (Verbeek, 2010) while engaging with designers to make technologies—positively—not only morally but also politically beneficial. Yet even without taking designers into consideration, as soon as we base our research empirically, and hence pay attention to concrete technologies and the possibilities they unlock, we become able to see that technologies can be ‘the source of new forms of social agency and self-awareness’ and open up ‘new political spaces’ (Verbeek, 2017, p. 303). Postphenomenology is eminently interested in the new possibilities of human experiencing and acting created by technologies, and takes heed of them from the perspective of design ethics (Verbeek, 2006).

2. Up-to-Date Postphenomenology

Having briefly summarized the distinctive traits of postphenomenology, let me scrutinize three closely connected elements or dimensions of its approach. First, how does postphenomenology conceptualize technology? Second, how does it apprehend the mediation of experience by technology? Third, how does it analyze this mediation and base its findings?

I focus on these three questions for two reasons. On the one hand, the dimensions addressed by them constitute the fundamentals of the postphenomenological approach. On the other hand, by analyzing them one by one, I hope to offer not only a comprehensive but also a comprehensible explication of the limits of postphenomenology.

2.1 Technology

Postphenomenologists do *not* define technology. They prefer material technologies to immaterial concepts when doing their analyses. Or, they base their conclusions on analyzing specific relations with concrete technologies. Such an approach should prevent not only thinking of technology too abstractly but also turning it into a sort of substance or an autonomous force capable of subjugating humans. Simply put, we risk essentialism the moment we try to formulate what technology *is*, and there is no such risk if we turn to what is used *as* technologies. However, postphenomenologists inevitably *do* apply some concept of technology when doing their research, i.e., when analyzing particular things *as* technologies. As I intend to show in this section, they should make their concept of what makes a thing or a process technological explicit and sound. Just as importantly, they must be able to demonstrate that technology has a significant, noteworthy impact on our lifeworld. To accomplish these tasks, postphenomenologists cannot but transcend the sphere of particular technologies: they need a concept of technology (as) significantly mediating human experience. To be sure, such a concept will not be independent of particular technologies. Yet, as soon as we ask the question of what makes technology able to condition the appearing of other phenomena, our dealing with particular technologies evokes questions that necessitate transcending the very sphere of particularities. This section seeks to demonstrate this by proceeding from more specific (and tangible) phenomena to more general ones.

Allow me to begin with quite an obvious fact: the empirical turn as realized by postphenomenology is a turn to technological *artefacts* (Coeckelbergh, 2022, p. 259). But this triviality evokes an arguably essential question: how do postphenomenologists *select* a technology that they turn to? What is the criterion of their choice? To indicate why this question must be addressed, let me discuss some possible answers to

it. First, since postphenomenology seeks to be fully contemporary (Ihde, 2009, p. 19), one can suggest turning to the most *recent* technologies. But is there any reason to think that they have the most significant impact on human experience? If not, why prefer them? Pieter Lemmens speaks in this context about the ‘myopic fascination with empirically describing the effects of the most recent technocommodities on a consumer-subject that is not in any way problematized’ (Lemmens, 2017, p. 308), which may sound a bit harsh, but it rightly indicates the problematic nature of this criterion. Second, one might argue that we should focus on the technologies with the most *transformative* impact on experience. But how can we say in advance, i.e., before analyzing a particular technology, how radical its impact is? Our presumptions may quite easily be misleading, contingent on prevailing views. Third, we could take *societal needs* as the decisive criterion. But they are far from being obvious. Society never gives equal space to all its members to express their concerns. In our representative democracies, politicians are supposed to give voice to the people. Yet even in the best possible scenario, philosophers cannot unquestioningly rely on how politicians specify the priorities of, for example, government-supported research.

Obviously, this is not a list of all conceivable criteria. And, admittedly, all the criteria just mentioned *are* relevant. It is reasonable to pay attention to new and/or widely used technologies as they may lead to significant transformations. Such a focus is socially responsible. Novelty itself, however, is no criterion, while the other two criteria necessitate further discussion. Besides, non-postphenomenological philosophers of technology, such as those inspired by the so-called critical theory of technology, can argue that their approaches are better equipped to identify the technologies in need of being addressed by society. To make their approach compelling, postphenomenologists *must justify* why their focus on this or that technology is philosophically relevant. And such a justification cannot be made simply and only *ad hoc*. They must offer a more *general reasoning*. This is desirable also because turning to something always means turning away from something else. Without some guideline directing their focus, postphenomenologists risk missing crucial cases of technological mediation.

Taking one step back, there is another pressing question regarding the postphenomenological turn to technology realized as a turn to artefacts.

Should we principally address *all* the artefacts or just the *technological* ones? And what about the things not artificially made by humans? Can they technologically mediate experience? Postphenomenologists sometimes seem to propose a turn to objects as such (Verbeek, 2005, p. 2), yet they do limit their focus to technologies, and technologies are never—according to postphenomenologists—the objects in themselves. A thing rather *becomes* technology as a part of a human pragmatic context. But on what basis do we identify something as technology? Not all entities entering human pragmatic contexts are considered technologies. Or, in case we do take all the parts of these contexts as technologies, postphenomenology needs to be conceptualized in a more inclusive way. Such an approach is implied by Yoni Van Den Eede (2022). Seeking to bridge the gap between the empirically and transcendently oriented approaches in the philosophy of technology (I will address this duality later), he takes inspiration from Graham Harman’s object-oriented-ontology and points to a universal thing-transcendentality. By this, he means that each thing transcends any possible relation to it, and understanding of it, while remaining a reservoir for unforeseeable transformative processes. Elaborating on Van Den Eede, we could imagine a more inclusive kind of postphenomenology focusing not only on *technological* mediation but more broadly on mediation by *any* object.

Yet, instead of promoting such an approach, I want to underline that postphenomenology, precisely because of its focus on technology, cannot avoid addressing not only the question of why to turn to this or that technology but also the question of why to turn to technology at all. The just-mentioned theory of not-only-technological mediation is fully possible, but the theory of *technological* mediation is arguably even more needed. It is needed exactly because—and as far as—our experience is *fundamentally* mediated by technology. Postphenomenologists are rather hesitant about the universality of technological mediation. They do not claim, at least not categorically, that technology mediates human experience *in toto*. This seems quite understandable: who would dare to claim that *all* experiences are mediated by technological artefacts? But to claim that experience is fundamentally mediated by technology is not the same as claiming that each and every experience is mediated by some technological artefact. To swiftly clarify my point, allow me to point to Ihde’s famous analysis of the telescope (Ihde, 2011; 2016): with

the introduction of this technology, humans started to experience the world differently, and they do so till today. Or, the existence of a home—which is a technology making human homeliness (and homesickness, too) possible—is a fundamental condition of our experience. In other words, technology can change not (only) particular experiences but the lifeworld as such, namely the basic framework of human experience. I argue that postphenomenology should focus on *such* transformative processes. And to be able to do that, it must deal with the questions formulated in the previous paragraphs.

2.2 Mediation

Postphenomenology focuses on human interactions with technological artefacts, yet it does *not* concentrate on the technological things *themselves*. As stated by Rosenberger and Verbeek and quoted above also, it takes ‘the study of human-technology relations as its starting point’ and elucidates ‘*how, in the relations that arise around a technology, a specific “world” is constituted, as well as a specific “subject”*’ (Rosenberger & Verbeek, 2015, p. 31, emphasis in the original). The emphasis lies on the *relations* with and around a technology, not on the technology itself. Of course, there would be no human-technology relation without a technology. But it is not the technology itself that by itself shapes humans and the world. Rather, it partially contributes to constituting a specific world and a specific subject by making specific ‘relations that arise around’ it possible. Yet these relations are always already co-enacted by humans and the process of mediation takes place based on this interrelatedness. Hence, technological mediation is not, strictly speaking, generated by the technology itself but rather by the relations arising around it.

Since postphenomenologists understand technologies pragmatically, as means of our actions, they predominantly analyze technological mediation by focusing on what technologies do *when used*. I already criticized such an approach: we can either seek to fully realize what technologies do even beyond our pragmatic intentions, or reduce their mediating power to what they do as part of our practical contexts (Ritter, 2021a, pp. 586–588). Recently, Dmytro Mykhailov and Nicola Liberati developed a similar line of reasoning by drawing on Husserl’s

concept of passive synthesis: technologies themselves (can) have their own intentionality, or their ‘inner passive activity’, irreducible to and independent of our intentionality and activity. The authors rightly underline that technologies can, for example, autonomously interact with other objects while this interaction may take place outside of the subject’s consciousness. ‘Technological intentionality exists *before* or *outside* the mediation’, claim the authors (Mykhailov & Liberati, 2023, p. 15, emphasis in the original).

I agree with these and other researchers (e.g., Aydin et al., 2019) that postphenomenology does not take *the autonomy of technology* seriously enough. This flaw affects its relational ontology, too. Despite declaring that technology is just as important a part of the human-technology-world relation as humans themselves, postphenomenologists do *not* develop a genuinely *inter*-relational ontology. This becomes visible, I believe, in how Rosenberger and Verbeek distinguish their approach from that of actor-network theory (ANT). In contrast to ANT, postphenomenology does not abandon the distinction between subjects and objects. It insists on this dichotomy to ‘do justice to human experiences of being subjectively “in” a world’ while analyzing ‘engaged human-world relations, and their technologically mediated character, from a first-person perspective’ (Rosenberger & Verbeek, 2015, p. 20). In fact, the traditional subject-object dichotomy is not necessary to do justice to human experiencing in the world, or to enable analysis of it from a first-person perspective. To put it more concretely, there is no need to dichotomize (intentional) humans as subjective agents in contrast to merely functioning (non-intentional) objects in order to phenomenologically analyze human experience.² Postphenomenology inclines to such a dichotomization, which has as its consequence—as Bruno Latour puts it regarding phenomenology—an ‘excessive stress given by phenomenologists to human sources of agency’ (Latour, 2005, p. 61, n. 67). I agree with Verbeek that ‘the postphenomenological perspective and Latour’s actor-network theory are not as incompatible as Latour himself supposes’ (Verbeek, 2005, p. 168), but making them

2 I cannot discuss here the different ontologies of phenomenology and ANT. Even less do I intend to discuss ontology as such. My point is that the (non-)acceptance of the subject-object dichotomy has no direct impact on the possibility of analyzing human experience.

compatible implies making postphenomenology less subjectivist. Specifically, we have to pay as much attention to objects and their agencies as to human agency while acknowledging that experience cannot be fully accounted for from a first-person perspective only.

Generally put, postphenomenology usually does *not* focus on human-technology-world relations *in toto* but rather on *human relating to* technology. As is very well known, Ihde (1990) distinguished four basic forms of human-technology-world relations, and other postphenomenologists, especially Verbeek (2008), added more. Taking into consideration this (still expanding) list, I can formulate the problem of insufficient inter-relationality, and of the undervaluation of technology, from a different angle. In the schematic depictions of human-technology relations, the arrow is never directed from the right to the left, i.e., from 'world' to 'technology' or from 'technology' to 'human' (e.g., Verbeek, 2008, p. 389, p. 391, p. 393). This indicates that, whatever the relations 'arising around a technology' may be, these relations remain induced by humans. The 'inter-relation' is about *our* relating to the world (and to fellow humans) through technologies. What is missing in these schemes is the possibility of the arrow pointing in the opposite direction.³ Or, to express the very same problem otherwise: there seems to be no possibility of putting 'technology' on the left, thus effectively making the scheme 'technology-human-world'.

To be clear: I do not call for thinking of technology as using humans. What I do claim is that, to fully realize the contribution of technologies to technological mediation, we should aspire to take as our *starting point* not only 'the study of human-technology relations' (Rosenberger & Verbeek, 2015, p. 31) but the study of both *these* relations *and* technology-human relations. Admittedly, it is a difficult task to conceptualize the (non-intentional) relational agency of technologies, yet only on such a basis can we fully realize 'the relations that arise around a technology' (Rosenberger & Verbeek, 2015, p. 31, emphasis in the original) as conditioned by both humans and the technologies themselves. In other words, if we want to elucidate how technologies influence our experience, we cannot do

3 Lately, Bas de Boer and Peter-Paul Verbeek have attempted to conceptualize the reciprocal character of human-technology relations (cf. de Boer & Verbeek, 2022). See also Aydin et al. (2019, p. 328) for an attempt to think of technology as a part of the world itself.

so by focusing solely on the relations *we have* with them, thus reducing technological mediation to how *our relating* to technologies influences our experience. The postphenomenological approach to human-technology relations is unnecessarily humancentric, and this bias originates from its pragmatic, not phenomenological, roots: it is conditioned by the implicit identification of technology with something we pragmatically relate to. Yet to overcome this limit, we must do more than acknowledging the 'inner passive activity' of technologies. For the question is: how does this intentionality contribute to technological mediation? And, indeed, how does *our* intentionality contribute to it?

The process of technological mediation cannot be reduced to human or technological intentionality. Rather, it seems to be produced by the intertwining of these intentionalities. However, the situation is even more complicated because the contribution of both technologies *and* humans to the process of technological mediation can be non-intentional and/or non-intended. In fact, there is *an essential difference* between the process by which the technologies themselves intentionally relate (whether to their environment or to us) and the process by which these technologies affect our relating to the world, i.e., technologically mediate. Similarly, there is *an essential difference* between the process of our intentional relating to the world through technologies and the process by which this intentional using of technologies affects our relating to the world, i.e., contributes to technological mediation. This indicates that it is extremely difficult, if not impossible, to determine where exactly, and when exactly too, the process of technological mediation takes place. But perhaps we are looking in the wrong place when trying to capture technological mediation as an empirically observable (inter)relational process. I will return to this question.

2.3 The Case of Empiricism

In the previous two sections, I focused on what postphenomenology analyzes and why. Accordingly, I examined its concepts of technology and technological mediation. In this section, I concentrate on *how* postphenomenology analyzes the influence of technology on human experience. Of course, this methodological question is not independent of the previous ones. On the contrary, the way we analyze something

affects the thing itself, namely what we see as technology and how we understand technological mediation. Hence, in the previous two sections I have already addressed, implicitly, the empirical turn as realized by postphenomenology. This section complements the aforesaid.

As I have explained elsewhere (Ritter, 2021b, pp. 1503–1505, pp. 1512–1515), Ihde's philosophy of technology is not limited to the analysis of human individual engagements with technology. In *Technology and the Lifeworld* (1990, p. 161), he distinguishes three programs: in addition to (1) 'a phenomenology of technics', Ihde outlined (2) 'cultural hermeneutics' and (3) a 'final program' (with no formalized title) revealing the 'curvatures of the contemporary lifeworld'. In its continuing development, however, postphenomenology has tended to focus on the first program only: a phenomenology of technics is usually carried out when postphenomenologists study human-technology relations. Even Ihde himself has lately leaned toward reducing his philosophy to such a 'praxis-oriented analysis' (cf. Ihde, 2015, p. xii). Generally, postphenomenology seems to have developed from a more broadly, and perhaps more vaguely, designed approach to one focusing exclusively on human-technology relations. And this transformation, I believe, is closely related to the intent of postphenomenologists to promote their approach as a form of 'empirical philosophy' (Rosenberger & Verbeek, 2015, p. 30). Postphenomenology wants to stay close to 'actual technological practices and artifacts' (Rosenberger & Verbeek, 2015, p. 30), which is not easily compatible with formulating general theses about the global characteristics of our lifeworld.

As empirical philosophy, postphenomenology focuses on case studies, or more precisely on *user* cases: on the experiences of human beings using technologies. This method has several pitfalls. First, there is a danger of focusing on a technology just and only when it is being used. But technologies can transform our experience without being used, as well (cf. Kiran, 2012, pp. 83–84). For example, even when we do not use airplanes (or spacecrafts), we experience the world 'through' them as something we can travel the length and breadth of. Second, in its intent to stay close to actual practices and artefacts, postphenomenology tends to analyze human-technology relations as the relations between an individual and a technology, without being sufficiently sensitive to the fact that a human being is never a self-dependent atom but always

already a social—i.e., in a sense non-individual—entity (cf. Romele, 2021; Arzroomchilar, 2022, pp. 76–78). The same is true about any technology: it is not just an individual thing but is permeated with non-particular characteristics. Simply, there is *no* truly, or rather merely, individual human-technology relation. Third, how can we generalize the findings based on particular cases of human-technology relations? The aim of case studies is *not* to elucidate particular cases themselves. Rather, the cases should be exemplary: they are supposed to be the cases of something non-particular. Is postphenomenology (1) willing and (2) able to conceptualize this? To what degree can it take the non-particular as something (temporarily) stable, given the postphenomenological idea of the principal multistability of technologies (e.g., de Boer, 2021)?

All the issues mentioned in the previous paragraph concern the *object* of inquiry. Yet, any case study has its *subjective* side as well: how is a researcher supposed to proceed to bring forth a *valid* case study? As underlined by Mariska Thalitha Bosschaert and Vincent Blok, to diminish the risk of investigator bias, case studies need to follow a clearly defined methodology: if a case study does not meet this requirement, it should be labelled ‘an *impressionistic* case-study in contrast to a *methodological* case-study’ (Bosschaert & Blok, 2023, p. 794, emphasis in the original). Postphenomenologists have been trying to make their approach scientifically founded and hence less ‘impressionistic’ (cf. Verbeek, 2016; Aagaard et al., 2018). But what all these efforts primarily expose is that, even when grounding our findings in ‘the empirical’, we cannot do without developing a conceptual framework making empirically oriented research methodically sound. For (not only) this very reason, I agree with Bosschaert and Blok that ‘the empirical and the structural are both inevitable in a philosophical understanding of technologies, and interrelated’ (2023, p. 799). To put it a bit bluntly, what we see as (empirically) given depends on our theories (cf. Misa, 2009).

Bosschaert and Blok speak about ‘a bias toward describing the concrete’ of the empirically oriented philosophers of technology (2023, p. 797) and question the assumption ‘that structural issues can be resolved by means of studies of concrete technologies’ (2023, p. 798). I do consider it possible to disclose ‘structural issues’ through studying concrete technologies. But we cannot achieve this by *basing* our analysis on the experiences of humans using technologies. Such an

analysis must already be informed by the above-mentioned reflections, namely by taking into account—explicitly and methodically—that our individual human-technology relations are always already trans-individual and that technologies are never merely individual but always already systemic, i.e., parts of larger technological systems. Taking these dimensions into consideration, we can no more take ‘empirical’ particularities as our starting point—or, to formulate it positively, we can explicitly acknowledge the empirical in its truth not as a positivist givenness but as a givenness *achieved* by theoretical effort. By developing such an approach, we can make it possible to deal with ‘structural issues’ and even to formulate general theses about the global, yet historically conditioned, characteristics of our lifeworld.

3. Contours of Phenomenological Postphenomenology

In his ‘program for postphenomenological research’, Verbeek (2016) distinguishes three lines of inquiry: epistemological, ethical, and metaphysical. Postphenomenology should study how technological mediation shapes our knowledge, morality, and metaphysical frameworks. The third, metaphysical, line of inquiry should analyze the mediated character of metaphysics but also ‘develop a metaphysical framework for understanding the phenomenon of technological mediation itself’ (Verbeek, 2016, p. 199). This is a remarkable suggestion, especially considering the disinclination of postphenomenologists to develop theories separate from empirical cases: a ‘metaphysics of mediation’ seems to transcend a research field investigating ‘the role played by specific technologies in specific contexts’ (Verbeek, 2005, p. 7). In other words, it transcends particularities to offer a general theory. I do agree that such a reflection must be an inseparable, indeed vital, component of postphenomenology if it aspires to be a philosophical endeavour, not an empirical science. In a similar vein, I have sought to indicate some elements, so far rather negatively, of what I would prefer to call a phenomenology, and not a metaphysics, of mediation. Before sketching some of its basic lines, allow me to take a very brief look at the recent ‘empirical-transcendental debate’ in the philosophy of technology (Lemmens & Van Den Eede, 2022).

I agree with Alberto Romele that postphenomenology has always perceived technology in a sense transcendently, namely 'as a condition of possibility for a specific relationship with the world' (2022, p. 977). However, the empirical turn philosophers have a narrow concept of the transcendental. They connect the term with the conditions of possibility of technology and conclude that, if we focus on such conditions, we do not pay enough attention to the technologies themselves (e.g., Achterhuis, 2001, p. 3; Verbeek, 2005, p. 7). But such a conclusion is too hasty. It is fully possible to pay attention to *both* the conditions of possibility of technology *and* to the technologies themselves. In fact, although it is questionable if in postphenomenology 'technology itself is understood within two of its own conditions of possibility—humans and the world' (Romele, 2022, p. 977), there seems to be no specific reason why postphenomenology could not take these two conditions into account. But whether we pay attention to them or not, we still can think of technologies as having a transcendental function, i.e., as making possible a specific givenness of the world. Hence, as Lemmens puts it, we need to 'technologize the transcendental': instead of emphasizing the non-technological condition of technology, we must 'recognize technology itself as the transcendental operator' (2022, p. 1307).

If we take the transcendental as referring to what conditions human experience without necessarily transcending it, we can claim that postphenomenology cannot but take the transcendental into account. The mediating is itself the transcendental. Hence the three questions raised above can be reformulated thus: how to conceive of the mediating/transcendental itself? How to conceptualize the mediating process? And how to analyze it? By answering these questions, I seek to outline the basic tenets, and nothing more than such abstract principles, of modified postphenomenology.

3.1 What is Essential is Invisible to the Eyes

I have argued that postphenomenology needs a concept of technology (as) significantly mediating experience. Postphenomenologists doubt this need and directly analyze things used *as* technologies. But to justify their turning to this or that technology, and not to another one, they have to give reasons why they consider it as significantly transforming our

experience. Even more elementarily, they have to justify their belief that it is technology, and not non-technological things or processes, that has such an impact. Only on such a theoretical basis can postphenomenology be seen as a philosophical endeavour.

Once we open this line of inquiry, we can no longer be satisfied with particularities. Or, more precisely, we cannot be satisfied with particularities *as* particularities. Technologies are worthy of attention not due to their particularity but because their specific technological characteristics, which can be shared with other technological particularities, are capable of significantly transforming human experience. To use a somewhat banal example, we cannot be satisfied with analyzing human interactions with smartphones but are led to focus on the digital technology in its digitality. This implies that we become able to see technology both *otherwise* and *elsewhere* than usual. Digital technology is not identifiable with this or that particular smartphone; in a certain sense, digitality is not an object at all, i.e., not a thing we directly interact with. This example indicates that it may be misleading to think of technology in an objectivist way. Accordingly, it is fully justified to think of technology, in its very materiality, not as something standing in front of us but rather as something we already are a part of (cf. Aydin et al., 2019). Paradoxically, a philosophical approach that goes beyond the limited focus on artefacts as things we interact with is compatible with object-oriented ontology, provided we understand technologies not 'from our ingrained Cartesian worldview, but more as in line with McLuhanist environments' (Van Den Eede, 2022, p. 238).

I would suggest even one step forward, or perhaps backward. Acknowledging that *the* phenomenon for postphenomenology is technology, I would cite, by way of analogy, Heidegger's famous description of the phenomenological method in *Being and Time*: technology is '*necessarily* the theme' because it '*lies hidden*, in contrast to that which proximally and for the most part does show itself; but at the same time it is something that belongs to what thus shows itself, and it belongs to it so essentially as to constitute its meaning and its ground' (Heidegger, 2001, p. 59, emphasis in the original). Technology may not ground and constitute the meaning of all phenomena, yet we must *explicitly* ask the question of how decisive its impact is, and we cannot do so without thinking of technology as something *hidden* in technologies as well.

3.2 Mediation is No Relation

According to postphenomenology, technological mediation is 'generated' by relations around a technology, which usually means by the processes arising from human relating to technology. I have sought to demonstrate that such an approach is not inter-relational enough and effectively downplays the role of technology itself (and probably of the world, too). Yet its most essential weakness, which paradoxically is its strength as well, consists in the very idea that technological mediation can be explained by, and hence reduced to, relations.

Postphenomenologists emphasize that 'humans and technologies should not be seen as two 'poles' between which there is an interaction; rather, they are the result of this interaction' (Verbeek, 2015, p. 28) and that postphenomenology 'does away with the idea that there is a pre-given subject in a pre-given world of objects, with a mediating entity between them. [...] Intentionality is not a bridge between subject and object but a fountain from which the two of them emerge' (Rosenberger & Verbeek, 2015, p. 12). I fully agree that intentionality does not connect the already established entities but rather makes their appearing possible. However, postphenomenologists *do* base their analyses on the 'inputs' of humans and technologies. They analyze how humans relate to technologies and how these technologies influence, when being used, humans in their relating to the world. When Rosenberger and Verbeek speak about 'mediation and mutual constitution' (2015, p. 12), the emphasis lies, in concord with their relational approach, on mutuality. They effectively reduce technological mediality to this mutuality. Instead of elucidating technological mediation as preceding subjects and objects, postphenomenology identifies mediation with, and analyzes it as, a mutual process of co-determining or co-constituting of subjectivity, technology, and objectivity.

Rosenberger and Verbeek rightly claim that we cannot think of intentionality as a bridge but rather as a 'fountain'. But how to do that? From the methodological point of view, the postphenomenological focus on relations is appealing because it can work with empirically given entities. Yet, we must seek to analyze intentionality, in its being technologically mediated, as 'something' neither subjective nor objective, and in this sense non-empirical. Ihde claims that 'the

interrelational ontology [was] implied by Husserl's "intentionality" and Heidegger's "being-in-the-world" (2015, p. xii, emphasis in the original). But neither Husserl nor Heidegger envisioned interrelational ontology. In fact, there is no natural affinity between phenomenology and such ontology. Moreover, Heidegger's concept of 'being-in-the-world' radically transformed, both ontologically and methodologically, Husserl's concept of intentionality. The same can be said about Merleau-Ponty in relation to his predecessors. Phenomenology has its own inspiring history in the course of which it has developed various methods of approaching human experience.

I suggest that, instead of relying on an interrelational, pragmatically grounded and empirically oriented philosophy of technology, we can reach for phenomenological, i.e., non-interrelational, concepts to think of 'intentionality', or 'being-in-the-world', or whatever other term we prefer to call our existence, in its being conditioned by technology. For example, we can draw on the theory of intersubjectivity (in its various versions), which offers a different concept of the relations between humans and the world than the pragmatic one. Or, we can explicitly take into consideration the fundamental notion of appearing. This could shed new light on the arguably crucial concept of lifeworld. Let me be clear: these and other concepts do not urge us to forget about relations between subjects, technologies, and the world. Quite to the contrary. Yet they can help us to fully appreciate that these relations are not all there is. If we want to elucidate technological mediation, we cannot do it by combining several relations as if they were pieces of a puzzle. Technological mediation of intentionality is irreducible to human-world relating through technology and cannot be explained by analyzing, one by one, the human-technology, and technology-human, and (perhaps) world-technology, and technology-world, etc., relations.

3.3 The Task of Thinking

The empirical orientation of postphenomenology does not make it methodologically bulletproof. The study of empirically accessible human interactions with technologies is in danger of approaching both humans and technologies (and their interactions as well) in a too atomistic, and hence reductive, way (cf. Ritter, 2021b, pp. 1505–1506).

Besides, postphenomenological analyses do not follow an unquestionable empirical method. Yet, I do not suggest buttressing postphenomenology with an objectivist methodology. One cannot substitute the effort to understand phenomena with following a strictly defined method (cf. Scharff, 2022, p. 12).

“The term “phenomenology” expresses a maxim which can be formulated as “To the things themselves!” It is opposed to all free-floating constructions and accidental findings; it is opposed to taking over any conceptions which only seem to have been demonstrated’, writes Heidegger in *Being and Time* (2001, p. 50). The problem is, however, with how to *find* the things themselves, to avoid artificial constructions and fabricated conceptions. One can also put it this way: the problem is how to do justice to our concrete experience. (Post)phenomenology seeks to lay our experience bare, and this effort is remarkable, or valuable, because it shows us something we were unaware of before. Through such an analysis, not only can we see how our experience is conditioned, but we also become able to experience differently, to see things differently.

This can be done in different ways and, as is perhaps clear from my considerations up to now, I do not want here to commit myself to a specific methodology. Instead, I would like to mention a thinker not quite popular among (post)phenomenologists. In his *Minima Moralia*, Theodor W. Adorno criticizes positivism and claims that, to penetrate reality, ‘to truly engage the empirical’, thinking must keep its distance. ‘It expresses exactly what is, precisely because what is is never quite as thought expresses it’ (Adorno, 2005, p. 126). This sounded odd—and perhaps still sounds so—in the era of prevailing positivism. Yet, Adorno does not proclaim such a distance as a privilege. ‘Distance is not a safety-zone but a field of tension. It is manifested [...] in delicacy and fragility of thinking’ (Adorno, 2005, p. 127). Thinking can never be identical with what it thinks: any thought must aim beyond its subject ‘just because it never quite reaches it, and positivism is uncritical in its confidence of doing so’ (Adorno, 2005, p. 127). According to Adorno, then, ‘the exaggerations of speculative metaphysics are scars of reflecting reason [...] In contrast, the immediate proviso of relativity [...] denies itself by its very caution the experience of its limit, to think which is, according to Hegel’s superb insight, the same thing as to cross it’ (2005, p. 128). My point is, of course, that we must not shy away from thinking beyond

the given, which is tantamount to: we must dare to think. It is the only way to reveal technology as something not-only-particular, or—to put it another way—to reveal the particular in its truth.

4. Conclusion

The ability of postphenomenology to elucidate how technology transforms human experience will remain limited unless it refines its methodology. To demonstrate this, I divided my critical reflections into three sections focusing, respectively, on the postphenomenological object of inquiry, its theory of technological mediation, and its method. I identified three main shortcomings of postphenomenology: (1) by turning to technological artefacts, it does not provide a concept of technology (as) significantly mediating experience, yet it cannot do without it; (2) it reduces technological mediation to (inter)relations between humans and technology (while underrating the agency of things in these relations); and (3) the commitment of postphenomenology to the so-called empirical turn and corresponding focus on user cases makes its method theoretically lacking and substantially limits its reach. I hope to have demonstrated that scholars in the field should work to overcome these limitations. In other words, we need to cross the borders delineated by the empirical orientation of postphenomenology. To bring out the full potential of the theory of technological mediation, postphenomenology cannot immediately turn to artefacts and rely on analyzing human-technology relations, or inter-actions. Technological mediation is not simply out there, waiting to be discovered. It is not an empirical givenness. Certainly, there are humans and technologies out there, interacting and co-living in the world. But one cannot tell empirically where to look for the decisive 'cases' of technological mediation. Neither can we rely on our common sense in this matter. We undoubtedly have to document our findings in 'the empirical', but to do that, we cannot but develop concepts to make this documentation possible. In other words, to reveal the particular in its truth, we must create concepts different from what is simply given.

Seeking to outline an approach that overcomes the limits of postphenomenology, I used the collocation 'phenomenological postphenomenology'. Admittedly, it is a bit of an absurd term, yet

I find it fitting. Phenomenology is not an empirical science and postphenomenology, understood phenomenologically as something other than an empirical (e.g., psychological) science, cannot be satisfied with demonstrating how particular technologies condition particular experiences. The task is not (only) to present experiences in their being transformed, or made possible, by technologies but (rather) to demonstrate the structure of experience, i.e., the structure of our lifeworld as conditioned by technology. Or, from a different angle, (post)phenomenology analyzes not only ‘subjective’ experiences but, just as importantly, an ‘objectively’ experienced world. I put both the words ‘subjective’ and ‘objective’ in quotation marks to indicate that the experiences are not merely subjective while the lifeworld is not merely objective. The lifeworld is both ‘subjective’ and perfectly real: it is real correlatively to the human being living in it. And subjective experiences are never only subjective, i.e., coming from the subject, but always already ‘objectively’ conditioned and structured. Phenomenology aims to describe the lifeworld, i.e., the basic structure of—and for—the life of the ‘subject’. Postphenomenology can do the same.⁴

References

- Achterhuis, H. (Ed.). (2001). *American philosophy of technology: The empirical turn* (R. P. Crease, Trans.). Indiana University Press.
- Adorno, T. W. (2005). *Minima moralia. Reflections on a damaged life* (E. F. N. Jephcott, Trans.). Verso.
- Arzroomchilar, E. (2022). Some suggestions to improve postphenomenology. *Human Studies*, 45(1), 65–92, <https://doi.org/10.1007/s10746-021-09615-1>
- Aydin, C., Woge, M. G., & Verbeek, P.-P. (2019). Technological environmentality: Conceptualizing technology as a mediating milieu. *Philosophy & Technology*, 32, 321–338, <https://doi.org/10.1007/s13347-018-0309-3>
- de Boer, B. (2023). Explaining multistability: Postphenomenology and affordances of technologies. *AI & Society*, 38, 2267–2777, <https://doi.org/10.1007/s00146-021-01272-3>

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- de Boer, B., & Verbeek, P.-P. (2022). Living in the flesh: Technologically mediated chiasmic relationships (in times of a pandemic). *Human Studies*, 45, 189–208, <https://doi.org/10.1007/s10746-022-09625-7>
- Bosschaert, M. T., & Blok, V. (2023). The ‘empirical’ in the empirical turn: A critical analysis. *Foundations of Science*, 28, 783–804, <https://doi.org/10.1007/s10699-022-09840-6>
- Coeckelbergh, M. (2021). Earth, technology, language: A contribution to holistic and transcendental revisions after the artifactual turn. *Foundations of Science*, 27, 259–270, <https://doi.org/10.1007/s10699-020-09730-9>
- Heidegger, M. (2001). *Being and time* (J. Macquarrie & E. Robinson, Trans.). Blackwell.
- Ihde, D. (1990). *Technology and the lifeworld: From garden to earth*. Indiana University Press.
- Ihde, D. (1993). *Postphenomenology: Essays in the postmodern context*. Northwestern University Press.
- Ihde, D. (2009). *Postphenomenology and technoscience: The Peking University lectures*. State University of New York Press.
- Ihde, D. (2011). Husserl’s Galileo needed a telescope! *Philosophy & Technology*, 24, 69–82, <https://doi.org/10.1007/s13347-010-0004-5>
- Ihde, D. (2016). *Husserl’s missing technologies*. Fordham University Press.
- Kiran, A. H. (2012). Technological presence: Actuality and potentiality in subject constitution. *Human Studies*, 35(3), 77–93, <https://doi.org/10.1007/s10746-011-9208-7>
- Lemmens, P. (2017). Love and realism. *Foundations of Science*, 22, 305–310, <https://doi.org/10.1007/s10699-015-9471-6>
- Lemmens, P. (2022). Technologizing the transcendental, not discarding it. *Foundations of Science*, 27, 1307–1315, <https://doi.org/10.1007/s10699-020-09742-5>
- Lemmens, P., & Van Den Eede, Y. (2022). Rethinking technology in the Anthropocene: Guest editors’ introduction. *Foundations of Science*, 27, 95–105, <https://doi.org/10.1007/s10699-020-09772-z>
- Misa, T. J. (2009). Findings follow framings: Navigating the empirical turn. *Synthese*, 168, 357–375, <https://doi.org/10.1007/s11229-008-9447-y>
- Mykhailov, D., & Liberati, N. (2023). Back to the technologies themselves: phenomenological turn within postphenomenology. *Phenomenology and the Cognitive Sciences*, <https://doi.org/10.1007/s11097-023-09905-2>
- Ritter, M. (2021a). Postphenomenological method and technological things themselves. *Human Studies*, 44, 581–593, <https://doi.org/10.1007/s10746-021-09603-5>

- Ritter, M. (2021b). Philosophical potencies of postphenomenology. *Philosophy & Technology*, 34, 1501–1516, <https://doi.org/10.1007/s13347-021-00469-0>
- Romele, A. (2021). Technological capital: Bourdieu, postphenomenology, and the philosophy of technology beyond the empirical turn. *Philosophy & Technology*, 34, 483–505, <https://doi.org/10.1007/s13347-020-00398-4>
- Romele, A. (2022). The transcendental of technology is said in many ways. *Foundations of Science*, 27, 975–980, <https://doi.org/10.1007/s10699-020-09758-x>
- Rosenberger, R., & Verbeek, P.-P. (Eds). (2015). *Postphenomenological investigations: Essays on human-technology relations*. Lexington Books.
- Scharff, R. C. (2022). On making phenomenologies of technology more phenomenological. *Philosophy & Technology*, 35, 62, <https://doi.org/10.1007/s13347-022-00544-0>
- Van Den Eede, Y. (2022). Thing-transcendentality: Navigating the interval of ‘technology’ and ‘Technology’. *Foundations of Science*, 27, 225–243, <https://doi.org/10.1007/s10699-020-09749-y>
- Verbeek, P.-P. (2005). *What things do: Philosophical reflections on technology, agency, and design* (R. P. Crease, Trans.). Pennsylvania University Press.
- Verbeek, P.-P. (2006). Materializing morality. Design ethics and technological mediation. *Science, Technology, & Human Values*, 31(3), 361–380, <https://doi.org/10.1177/0162243905285847>
- Verbeek, P.-P. (2008). Cyborg intentionality: Rethinking the phenomenology of human-technology relations. *Phenomenology and the Cognitive Sciences*, 7(3), 387–395, <https://doi.org/10.1007/s11097-008-9099-x>
- Verbeek, P.-P. (2010). Accompanying technology. *Techne: Research in Philosophy and Technology*, 14(1), 49–54, <https://doi.org/10.5840/techne20101417>
- Verbeek, P.-P. (2011). *Moralizing technology: Understanding and designing the morality of things*. University of Chicago Press.
- Verbeek, P.-P. (2016). Toward a theory of technological mediation: A program for postphenomenological research. In J. K. B. Friis & R. P. Crease (Eds), *Techscience and postphenomenology: The Manhattan papers* (pp. 189–204). Lexington Books.
- Verbeek, P.-P. (2017). The struggle for technology: Towards a realistic political theory of technology. *Foundations of Science*, 22, 301–304, <https://doi.org/10.1007/s10699-015-9470-7>