

# What Things Do

## Philosophical Reflections on Technology, Agency, and Design

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### *summary*

What role do artifacts play in our technological culture? The technological developments of the past century have made this question more pressing than ever. Our society is flooded with objects that co-shape people's everyday lives in many ways. Our personal interactions are associated with telephones and computers; our traveling with bicycles, cars, trains, and airplanes; our eating with refrigerators, cookers, and microwave ovens. Even our being born, being ill and dying are associated with instruments of all sorts. How are all these things affecting us? How can their role in our lives be understood?

#### *the problems of classical philosophy of technology*

Classical philosophy of technology gave a very gloomy answer to this question. Philosophers were concerned that technology would alienate humans from themselves and from their world. They thought that the ever more dominant technological way of thinking would only allow people to approach reality as raw material, instead of being intrinsically valuable. Beside this, the technological outfitting of society, needing only functional workers for keeping the apparatus of mass production going, would impede people's ability to exist as unique persons. This reaction of resistance against a phenomenon that had changed culture so drastically in such a short time is understandable. But over the years, the classical 'standard picture' of technology has become less self-evident. Empirical research into the development and use of technologies has revealed a much more differentiated and balanced picture. It has made clear that technologies interactively co-shape society in many ways, without being alienating per se.

This does not imply, however, that classical philosophy of technology should be considered entirely outdated. Rather, the classical questions deserve new answers that do justice to the concrete presence of technologies in our culture. The classical questions themselves were not problematic, but the ways in which they were answered. A way of thinking should be found that takes empirical research on the interactions between technology and society seriously, and yet does not give up asking philosophical questions.

In the first part of this study, I show that the classical diagnosis in terms of alienation is closely connected with the ways in which technology has been conceptualized. As I explain in chapter 1, classical philosophy of technology had a quasi-transcendental approach. Transcendental philosophy, with Immanuel Kant as its main representative, seeks to understand phenomena by analyzing their conditions of possibility. In order to understand knowledge, for instance, Kant inquired into the conditions that have to be met for knowledge to be possible. In line with this style of thinking, classical philosophy of technology analyzed technology in terms of what has to be presupposed for it to exist and to function. This is not wrong per se. But eventually, it spoke about the *conditions* of the possibility of technology as if it were speaking about technology *itself*. Classical philosophy of technology thought 'backward', as it were: from the concrete technologies that are present in society to the conditions which make them possible. And that created a strongly reduced picture of technology.

In Karl Jaspers' existential approach, for instance, which is discussed in chapter 2, the central thought was that technology brings forth a mass culture which suffocates the uniqueness and authenticity of people's existence. In his opinion, technology creates an entirely new social and material environment for our existence, which is defined by functionality. The technological devices that form people's material environment do no longer evoke personal attachment, and society becomes organized as a machine of mass production in which humans can only be present as factors of production. In this way, technology would alienate people from the unique existence they ultimately are. According to Martin Heidegger - whose philosophy of technology I discuss in chapter 3 - technology brings about a specific kind of relationship between humans and their world. In our 'age of technology', reality can only be present as raw material, to be approached in a controlling and dominating way. This state of affairs has not been brought about by humans: it is 'being' that shows itself in this way. In our time, 'being' has the character of a technological 'enframing', which conceals the fact that every relationship with reality involves a 'coming-to-presence' of entities. Things lose their transcendence, and people's contact with them is reduced to a sheer will to power.

However relevant and illuminating some aspects of these analyses may be, eventually they are highly problematic. Because of their transcendentalist style of thinking, Jaspers and Heidegger understood technology exclusively in terms of its conditions and presuppositions: the functional organization of society and the technological manifestation of being. Therefore, they could not do justice to what technology actually and concretely does with people. Classical philosophy of technology, as it were, organized its analysis in such way that it could but produce a diagnosis of alienation. Most technologies are present in a more-than-functional way, however, and do not necessarily make humans disclose reality as raw material for manipulation. A telephone does not reveal the person on the other side as a resource for our will to power, nor does a car reduce its driver or the landscape to mere functionality. Technologies do change people's existence and their

relationships with the world, but in a much more subtle and differentiated way. The fact that technology originates from a controlling and functionalist way of thinking does not imply that it also only allows a controlling and functional way of dealing with reality.

This conclusion demands that philosophy of technology reverse its perspective. As opposed to the transcendentalism of the classical positions, it should 'think forward' instead of backward, and make a profound analysis of the roles technologies concretely play in people's everyday lives. In order to do that, technology should not be approached in terms of its *conditions*, but as concrete technological *artifacts*. That makes it possible to analyze what technologies *do* with people instead of what they *originate from*. But how to conceptualize technology in terms of artifacts? What could a 'philosophy from the perspective of things' look like?

### ***postphenomenology***

My approach in developing a 'philosophy of technological artifacts' is inspired by Don Ihdes 'postphenomenology'. This approach not only allows for a new answer to the classical questions in philosophy of technology, but also for a new elaboration of the perspective behind these questions. Both Heidegger's and Jaspers' analyses are phenomenological in nature. And not only its elaboration with regard to technology, but also the phenomenological perspective itself has received severe criticism. It is often considered romantic and essentialist, because it presumed to provide philosophy with a method to describe reality 'in itself' and 'in its full richness', as opposed to the alleged reductionism of the sciences. Yet, a new interpretation of phenomenology offers possibilities *par excellence* for formulating a philosophy of technology from the perspective of things.

As I explain in chapter 4, the central idea in the interpretation of phenomenology developed in this study is that of *the mutual constitution of subject and object*, or of humans and their world. Humans and their world are always interrelated. People cannot but be directed at the world around them: they are always experiencing it and it is the only place where they can realize their existence. Conversely, the world can only be what it is when humans deal with it and interpret it. In their interrelation, both the subjectivity of humans and the objectivity of their world take shape. What people are and what their world is, is co-determined by the relations and interactions they have with each other.

This postphenomenological perspective offers a framework for analyzing technology. The fact is that technological artifacts can play a mediating role in this very relation between humans and world. Heidegger's early work, before his later philosophy of technology discussed above, offers an interesting starting point for understanding this mediation. In *Sein und Zeit*, Heidegger investigated the role of tools in the everyday relation between humans and their world. He considered the handling of equipment the pre-eminent way of establishing a relationship with the world. According to him, tools should be understood at the level of praxis: the primordial way of

having a relationship with tools is not critical examination, but praxical involvement. The way tools-in-use are present Heidegger calls 'readiness-to-hand'. They are used for doing something, and in their being 'ready-to-hand', they withdraw from people's attention. A person who drives a nail into a wall, is not directed at the hammer, but at the nail.

This concept of readiness-to-hand is of utmost importance for a 'phenomenology of things'. Ready-to-hand artifacts withdraw from people's attention - or their 'intentionality', as phenomenology calls it - but nevertheless they do play a constitutive role in the human-world relation that arises around them. By facilitating people's involvement with reality, artifacts co-shape this involvement. Things-in-use can be understood as mediators of the relationship between humans and world. Mediation should be understood in an active sense here. Artifacts are not neutral intermediaries, but actively co-shape people's being in the world: their perceptions and actions, experience and existence.

In the second part of the book, I build a vocabulary for understanding this mediating role of technologies. I do this on the basis of a critical discussion with the positions of Don Ihde, Albert Borgmann, and Bruno Latour. I discern two directions of phenomenology: hermeneutic and existential. Each of these directions approaches the human-world relationship from a different side. Existential phenomenology starts from 'the human side'. Its central question is how people realize their existence and are present in their world. Hermeneutic phenomenology starts at 'the side of world', and directs itself at the ways reality can be interpreted and be present for people. Jaspers represents the existential direction in classical phenomenology, Heidegger the hermeneutic. In the postphenomenological perspective on technology, the main question is what role technological artifacts play in the interrelation between humans and their world, and in the constitution of subjectivity and objectivity that comes about in this process.

### ***hermeneutic mediation***

As clarified above, the central hermeneutic question for a 'philosophy from the perspective of things' is, how artifacts mediate the way reality can be present for people. Artifacts do this by co-shaping experiences and interpretations. Don Ihde's philosophy of technology offers a good starting point for analyzing this, as I discuss in chapter 5. Ihde discerns several relations human beings can have with technological artifacts. Technologies can mediate the relationship between humans and their world (the 'relation of mediation'), they can be the terminus of our experience (the 'alterity relation'), or play a role only in the background, creating a context for our experience (the 'background relation'). Within these human-technology relations, transformations of perception occur. Ihde analyses the structure of these transformations, as brought about for instance by thermometers, telescopes, and spectrographs.

This transformation of perception has hermeneutic implications: mediating artifacts co-determine how reality can be present for and interpreted by

people. Technologies help to shape what counts as 'real': they play a role at the very level of the constitution of objectivity. This becomes most clear when investigating the role of instruments in the production of scientific knowledge. Without these, many scientific facts and theories could not exist. Instruments make it possible for scientists to perceive aspects of reality that cannot be perceived without them, like brain activity, micro-organisms, or invisible forms of radiation emitted by stars. The 'reality' studied here, has to be 'translated' by technologies into perceivable phenomena. What 'reality' is in such situations, is co-shaped by the instruments with which it is perceived.

Artifacts do not only mediate interpretations in this 'direct' perceptual way, however, but also 'indirectly', by co-shaping the frames of reference from which these perceptions can be interpreted. With Don Ihde, two dimensions of perception can be discerned: a bodily-sensorial dimension, which can be called 'microperception'; and a 'macroperceptual' dimension, which consists of cultural contexts and frames of interpretation. The verb 'to see' embodies this duality in an illustrative way: microperceptually, we 'see' a book, and macroperceptually we 'see' things quite differently after reading it. Together, the two dimensions of perception constitute people's experience, which can be understood as 'interpreted sensorial perceptions'.

Technologies co-shape people's macroperception in many different ways. Communication and transportation technologies, for instance, have made possible a cultural exchange on a large scale. This has resulted in a 'pluriculture', in which several frames of interpretation are needed simultaneously to understand it and live in it. Our frames of reference are also affected by technological instruments, which contribute fundamentally, as indicated, to the coming about of scientific knowledge. In our technological culture, scientific knowledge is not the sole property of scientists, but is increasingly forming the context against which humans understand themselves and the world around them.

By analyzing how technologies help to shape people's experience, an 'expanded hermeneutics' arises. The traditional focus of hermeneutics on texts is broadened to things. Not only ideas and meaning, but matter as well plays a role in human interpretations. This 'material turn' in hermeneutics creates a new route for understanding the role technology plays in people's interpretive relation with the world - a route that avoids the transcendentalism of classical philosophy of technology.

### ***existential mediation***

Within the existential perspective, the central question is how artifacts mediate people's existence. Existence can be understood as the mirror image of experience. Whereas experience consists in the way the world is present for people, existence can be seen as the way people are present in their world. And just as experience may be understood in terms of 'interpreted perceptions', existence comes about on the basis of actions in which certain forms of *involvement* with the world take shape. The nature of this

involvement is dependent on people's actions and on the contexts within which those actions take place - similar to the manner in which interpretations are dependent on sensorial perceptions and frames of reference.

In discussion with the work of Bruno Latour, in chapter 6, I analyze how artifacts mediate people's actions. Latour points out that artifacts 'translate' actions: what humans do is co-shaped by the things they use. Actions are not only the result of individual intentions and the social structures in which these individuals find themselves (the classical agency-structure dichotomy), but also of people's material environment. A speed bump, for instance, translates a driver's intention from 'driving fast, because I'm in a hurry', or 'driving slowly out of responsibility', to 'driving slowly to save my shock absorbers'. And the introduction of the microwave oven has not only enabled people to heat their food in a faster way, but also changed their eating pattern. Since a microwave oven is particularly suitable for heating one-person, deep-frozen, ready-made meals, it invites people to eat individually and by doing so, it weakens the 'culture of the table'.

In chapter 7, on the basis of a critical analysis of Albert Borgmann's theory of technology, I add to this analysis the dimension of involvement with the world, and investigate how it is mediated by technologies. According to Borgmann, technological devices, contrary to pre-technological 'things', ask for a specific way of dealing with themselves. Devices should be understood as *machineries* (like a central heating installation) that deliver *commodities* (like warmth). Devices keep their machinery in the background, in order to put their commodities in the foreground: these should be delivered quickly, easily, safely and ubiquitously. This implies that devices ask as little involvement as possible with themselves and with their surroundings. Non-device-like 'things' did (and do) not separate machinery from commodity: they engage people. For using a hearth, wood has to be chopped, the hearth has to be cleaned, et cetera. A central heating system only asks for turning it on, in order to consume its commodity warmth.

Put in the postphenomenological vocabulary of this study, Borgmann shows that artifacts, by mediating actions, co-shape the nature of people's involvement with their world. His analysis needs some adaptation, however, since his diagnosis is as dejected as those of Jaspers and Heidegger. According to Borgmann, technologies per definition impede human beings to be engaged with their world. This diagnosis is too limited. In many cases, technologies rather *stimulate* engagement. Instead of considering technologies to be disengaging *per se*, it is necessary to investigate the *translation* of engagement that technologies bring about. This translation appears to have a structure of 'invitation' and 'inhibition'.

One's involvement with the world is always shaped within a social context. This context is mediated by technologies as well, as Borgmann shows. Technology is the inseparable companion of liberal democracy. It gives people the resources needed for self-realization without determining how this realization should take place. Implicitly, however, in this way technology co-shapes our definition of 'the good life': according to Borgmann it defines

the life that is worth living as a life filled with consumption. Again, Borgmann only sees the reducing aspects of consumption. And again, against this I state that technology does not block, but mediates engagement, by inviting some forms and inhibiting others. Technology invites consumption, but the concrete consumption goods people deal with are not simply disengaging, but help to shape people's existence in a much more differentiated way. These considerations result in an 'expanded existential philosophy', which does not focus solely on traditional notions like 'the self' or 'authenticity', but on the ways subjectivity is constituted in people's interaction with their material environment.

### ***industrial design***

The 'philosophy of things' formulated in this study opens a new perspective within philosophy of technology, but it is also relevant for discussions taking place in industrial design. In that discipline, artifacts are designed that embody the mediating role investigated in this study. Designers could anticipate this mediation.

Within the approaches currently dominant in industrial design, there is little room for this anticipation, however. Design focuses too narrowly on the functionality, visual characteristics and symbolic dimensions of artifacts. Products are designed primarily as carriers of functionality and meaning. They have to work, and to fit people's lifestyles, since people only buy products that are working and appeal to them. Surprisingly, the materiality of things remains largely out of sight. Only non-material aspects of artifacts are taken into account, whereas from the perspective of mediation, matter matters as well. Artifacts do not mediate the relationship between humans and their world as signs, nor is mediation part of their functionality. Mediating products are present *materially*. Humans handle them and perceive with them, instead of only liking their style and benefitting from their functionality.

This implies that people's involvement with products is *sensorial* in nature. When products are used, they facilitate and co-shape the relation between their users and the world at a sensorial level. Anticipating mediation therefore requires that the materiality of products is taken seriously and that they are approached in a sensorial way. For this, a broader definition of aesthetics is needed than the current focus on lifestyles. Aesthetics originally means 'study of the senses'. This expresses exactly what is needed for design in order to anticipate the mediating role of products: an approach that accounts for the ways products co-shape the sensorial contact between humans and their world. The aesthetics of mass products should not only concern beauty or meanings, but the sensorial relationships between humans and their world as well.

As an example of what anticipating the mediating role of things could import concretely, in the last paragraph of chapter 8 I investigate what the formulated material design approach could contribute to the current discussion about sustainable design. For doing this, I take the work of the

Dutch Industrial Designers Association 'Eternally Yours' as a starting point. Eternally Yours follows an unorthodox approach within eco-design. Against the usual stress on reducing pollution in the production, consumption, and waste stages in products' life cycles, it focuses on longevity. Most products are thrown away while they are still functioning, simply because they are considered outdated or because their user's taste has changed. People's throw-away behavior could be changed by designing products which invite people to get attached to them. By anticipating the relationships that might come about between products and their users, Eternally Yours tries to stimulate attachment with products.

Put in postphenomenological terms, it is important for Eternally Yours to anticipate how products mediate the relation people have with them. For attachment to come about, products should invite a durable relationship with themselves as *material products*, not only with their functionality or meaning, because these could also be provided by an identical exemplary of the product. Attachment could be stimulated by letting humans participate in the functioning and wearing out of products. Things then mediate people's relationship with them in such a way, that they ask for involvement with themselves, with their physical machinery. The heater on the cover of this book is a good example of this. In order to function, the three ceramic shells around the heating element have to be arranged, with the help of the metal handle on top, so that the heat is radiated in the desired direction. Moreover, it cannot be hidden under the windowsill, like most radiators: people have to sit around it, as if it were a campfire. It remains present as a material entity all the time, instead of withdrawing entirely into functionality. With products like this, our relationship does not end when we put the plug into the socket. They are 'eternally ours'.

### **conclusion**

A philosophy of technological culture should take the material culture of technology into account. Classical phenomenological philosophy of technology has mainly tried to understand technology in terms of the conditions of its possibility. This transcendentalist approach resulted in a one-sided and inadequate understanding of technology in terms of alienation. What is needed is not so much an analysis of the *origins* of technologies but of what they actually *do*: the ways in which they co-shape the relationships between humans and their world. Technological artifacts play a mediating role in these relations, both with respect to the ways the world can be present for people and the ways people can be present in their world. This mediating role of things can become visible only if we do not reduce them to non-thingly aspects. Philosophy of technology should think from the perspective of things. Wasn't that the intention with which Husserl once initiated phenomenology: 'to the things themselves'?