# 3. Existence and Technology

## 3.1  Introduction

This chapter aims to explore Sartre's philosophical thoughts on technology. His theoretical considerations about practical ensembles in *Critique* rest on a specific understanding of the relationship between human agency and technology. This technology occurs in the form of artificial objects that, owing to the fundamentally instrumentalizing character of human action, serve not only as means to ends but also as a reification and material manifestation of this means-ends relation. Throughout his works, Sartre develops and refines his understanding of technological artifacts. These, as practico-inert residuals of former actions, serve as a counterpoint to the processual character of human existence within the scope of historical progression. The current work focuses on technology to provide a Sartrean framework for analyzing practical ensembles regarding human-technology relations.

Sartre's theories on practical ensembles are based on his philosophy of technology. He claims that social groups must be understood as practical interrelations between individuals, and these interrelations are mediated by socialized matter in the form of physical artifacts. These artifacts structure, scaffold, and manifest the practical interrelations these social groups consist of because the artifacts are themselves products of practical world interrelations with specific material properties.

Naturally, not all nuances of Sartre's view can be treated, although a general narrative is outlined according to which his philosophy of technology becomes understandable as a dialectical philosophy of technology.

Thinking of Sartre as a philosopher of technology may seem far-fetched at first, given that he does not explicitly engage in classical debates about technology. As is the case for most of his philosophical ideas, with regard to humans and technology, Sartre describes certain dynamics of their interrelation rather than providing clear definitions of what he understands as *technology*. Sartre's philosophy is neither specifically about technology nor about the objective world; it is mostly about human existence in relation to the world. In most of his works, however, Sartre discusses various characteristics of artifacts, objects of utility, certain commodities, and bodily techniques. On most occasions, these discussions serve to illustrate fun-

damental differences between humans and things on the one hand and the inherent connection between humans and objective reality on the other. When Sartre compares the autotelic nature of human existence with the seemingly predetermined nature of the objective world—especially that of manufactured objects such as tools and machines—he also makes a further observation: existence and objective reality necessarily interconnect in how practical significance, purposiveness, and equipmentality are constituted in a dialectical interrelation between humans and things. In this connection is found the root of Sartre's philosophy of technology.

However, it must be noted that Sartre's thought as presented in this chapter necessarily remains incomplete, especially regarding its implications for the forms of societal organization. This is because Sartre's thoughts presented here are constitutive for and thus, on their own, somewhat detached from the implications of technology's use in societal constellations. This chapter, therefore, builds on the last and focuses on the role of technological artifacts in the course of human action.

## 3.2 Dialectical Instrumentality

This section aims to reconstruct Sartre's conception of dialectical instrumentality. To do so, the section will introduce Sartre's engagement with philosophical questions surrounding the equipmentality of things and systems, their situation-specific utility and adversity, and their interrelation. The section will then embed these into the larger context of his dialectical philosophy.[1]

One of Sartre's more uninspired yet often cited engagements with technology can be found in his essay *Existentialism is a Humanism*. Here, Sartre uses a paper knife or letter opener (French *coupe-papier*) to illustrate the essential difference between human beings and technological artifacts. He claims that, because a paper knife is an instrument constructed for a specific purpose, it can be understood as having received its essence and *telos* from an external god-like artisan. In contrast, human beings constitute their essence as free, autotelic, and future-oriented beings that realize themselves through their actions (Sartre 2005, 148). This distinction is characteristic of Sartre's entire conception of technology. Human beings are active agents that make sense of the world for themselves through their actions, whereas nonhuman entities are passive things that are either completely devoid of meaning or receive their meaning and purpose from the outside through active human engagement. Although he revises this conception somewhat throughout his works, with regard to existence and technology, Sartre always locates true *praxis* in human exis-

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1    For a more condensed account of Sartre's dialectical philosophy of technology, see Siegler (2022b).

tence; any activity that might be attributed to non-human entities remains a false *praxis*.

## Primary Instrumentalization

However, in many ways, Sartre's engagement with technology from *Existentialism is a Humanism* takes a step backward in quality and nuance compared with his earlier thoughts in *Being and Nothingness* and, most of all, his later thoughts in *Critique*. The fundamental line of reasoning on which Sartre's philosophical thoughts on technology are grounded is his conception of human action as instrumentalization (French *instrumentalisation*) (Sartre 1960, 231). Section 2.3 showed that human existence is characterized by its autotelic and inherently practical orientation toward the material world. Every human being is an agent that acts for itself as an end in itself. Therefore, every action taking place in the course of human existence must be understood as a goal-directed activity that is relative to the agent as an end in itself. Because action necessarily takes place in relation to the material world, and because every action is an instrumentalization of matter, "[e]very *praxis* is primarily an instrumentalisation of material reality. It envelops the inanimate thing in a totalising project which gives it a pseudo-organic unity" (Sartre 1978, 161, emphasis in original). In this regard, every action must be understood as an implementation of means to ends. It must be noted that this conception of instrumentalization does not only refer to non-human entities but also, and most importantly, to the human body. Just like a non-human thing, the human body represents an inert sector of materiality that can be chained into "an organized, instrumental structure such that, through a series of sequences and connections, the modification brought about in one of the links brings in its wake modifications in the entire series and, in the end, produces some foreseen result" (Sartre 2021, 569). As biological organisms, human agents are material entities with complex needs and desires. As such, they rely on interacting with physicochemical reality to sustain themselves, communicate, and socialize. Regarding the human body within the course of action, Sartre states:

> The man of need is an organic totality perpetually making itself into its own tool [French *outil*] in the milieu of exteriority. The organic totality acts on inert bodies through the medium of the inert body *which it is* and which *it makes itself* [...] The action of a living body on the inert can be exercised either directly or through the mediation of another inert body, in which case we call the intermediary a tool [*outil*]. (Sartre 1978, 82, emphasis in original; Sartre 1960, 167)

In the course of action, human beings either make themselves into tools to act on matter or rely on tools to do so. Unfortunately, the English term *tool* obscures the wider intension of the original French term *outil*. With regard to certain non-human implements, such as hammers and knives or even machines and other more

complex technical systems that can be used as means toward ends, the term *tool* rightly connotes a certain passivity and purposiveness. Regarding an agent's living body, the term *tool* is misleading. Section 2.4 showed that agents corporeally enact the course of action from situation to situation. In the course of action, an agent's body is not at all passive. Sartre's original use of the term *outil* both for the agent's living body in action and for non-human things used as intermediaries, i.e. means toward ends, suggests that the term must be interpreted with his conceptions of totalizing action and instrumentalization in mind. In the course of totalizing action, agents principally instrumentalize themselves as well as non-human things toward their ends. Both are thus totalized as *outils* because both are primarily posited into the functional position of instrumental means within the dialectical means-to-ends relation of totalizing action.

In accordance with his distinction between the modes of being for-itself and being in-itself, Sartre has different conceptions of how human agents and non-human things fulfill a functional role as means in the course of human existence. Whereas things are always disclosed as means to ends within a field of equipmentality, human agents exist as the individual center of this field to which practical references refer and from which they equally radiate.

## The Field of Equipmentality

Given the fundamentally practical character of human existence, human reality is always "disclosed as haunted by absences to be actualized, and each *this* appears with a retinue of absences indicating and determining it" (Sartre 2021, 279, emphasis in original). This means that everything within individual human reality is always already in the process of being totalized as meaningful. The meaning comes about according to its practical and situation-specific relevance in dialectical relation to certain ends (French *fins*) for which these things may be instrumentalized as means (French *moyens*). In *Being and Nothingness*, Sartre states: "A thing is not first a thing, in order later to be an implement [French *ustensile*]; it is not first an implement, in order later to be disclosed as a thing: it is an implement-thing [French *chose-ustensile*]" (Sartre 2021, 280; Sartre 1943, 236).

In *Critique*, Sartre refers to these things as *practical objects* (French *objects pratiques*). This notion includes machines, tools, built structures, consumer goods, and any other objects of utility (Sartre 1978, 45–46; Sartre 1960, 138). Sartre claims that these things always appear as implement-things because they represent meaningful totalities resulting from the practical relationship between the agent and the world. Agents attribute meaning to objective reality by virtue of practically interrelating with it. Given that every action is an instrumentalization of material reality, every thing is totalized as an instrument by incorporating it into a potential course of action. Beyond this totalization, implement-things/practical objects rest "in the calm

beatitude of indifference" (Sartre 2021, 280). In other words, without a practical interrelation, the totalizing activity that makes these entities instruments ceases; the instrument as a totality then disintegrates (Sartre 1978, 46). Their material being remains, but the attributed meaning vanishes with the attributing agent.

Human existence is inherently practical and oriented toward self-realization through action. Thus, implement-things always appear relative to individual agents. Implements constitute a *structure of equipment* that is organized by "axes whose reference is practical" (French *axes de référence pratiques*) (Sartre 2021, 431; Sartre 1943, 361). For this reason, Sartre refers to the original relation between instrumental-things within human reality as equipmentality (French *ustensilité*) (Sartre 2021, 280; Sartre 1943, 236) in the sense of Heidegger's *Zeughaftigkeit* of things (Heidegger 2006, 68). Implement-things are not isolated but comprise an equipment complex or field of equipmentality (French *champ d'ustensilité*) (Sartre 1943, 363). In this field of equipmentality, implement-things refer "to other implements: to the ones that are its *keys*, and to those of which it is the *key*" (Sartre 2021, 432, emphasis in original). Most importantly, regarding the practical reference for the user, implements refer to specific tasks that can be performed with them. According to Sartre, "these references would not be grasped by a purely contemplative consciousness" (Sartre 2021, 432), because that consciousness would fail to see the connection between means, other things, and ends.[2] In Heideggerian language, Sartre primarily conceives of instrumental-things as *equipment* (German *Zeug*), which is disclosed as always *in-order-to* (German *um-zu*) and which ultimately forms an *equipmental whole* (German *Zeugganzheit*) that is relative to a specific human world-relation (Heidegger 2005, 232–233; Heidegger 2006, 71–74).[3] An agent's pen, for instance, refers to paper, ink, or a table. By referring to the act of writing itself, a pen also refers back to the writer. Human reality, specifically understood as a world of tasks, is thus

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2 Here, Sartre seems to suggest that either only a *practical consciousness*, which discloses the world as a field of instruments relative to itself as end in itself, or a not *purely* contemplative but also *practical* consciousness, is responsible for connecting means to ends. It can be suggested that an interrelated contemplative and practical consciousness corresponds to Sartre's conception of dialectical reason. However, the further investigation of this problem is reserved for future research.

3 Despite the terminological and conceptual similarities and the similar implications of Heidegger's and Sartre's thoughts on technology, however, Sartre's understanding of equipmentality implies a more engaged and proactive conception of a human's world relationality than the conceptual roots of his Heideggerian terminology initially convey. This is mostly attributable to the totalizing character of human existence, experience, and action. Whereas Heidegger's *Dasein* is somewhat inserted into an equipmental complex through which a person's world is disclosed, Sartre's being-for-itself more proactively constitutes and is constituted by what their surrounding matter provides them with. For Sartre's being-for-itself, their equipmental complex is the product of totalization. See Siegler (2022b).

objectively articulated. The world of tasks is represented in the means toward these tasks (Sartre 2021, 280, 432–433).

Consequently, because needs and desires project to individual ends based on how an individual's practical field of possibilities is equipped, an agent's inferential field of equipmentality correlates with their practical field of possibilities (Sartre 2021, 281, 432–433). An agent's totalizing action must not only be understood as a self-totalization and a totalization of the things around that agent and their world but also as a totalizing structuring of the field of equipmentality according to practical and situation-specific references toward certain ends (Sartre 2021, 431). Whenever a specific yet subjectively structured desire arises, for instance, it projects toward specific ends. Simultaneously, a vague outline of the course of action to attain these ends is given in relation to the availability of means in the field of equipmentality. When agents are thirsty, for instance, they practically structure their equipmental field through their actions in such a way as to look for and drink water. When there is no water available, however, these agents might structure their field so as to search for other water sources. In any case, the resulting structure of equipment represents the *organized, instrumental structure* that must be produced to eventually bring about intended modifications of the state of things in the course of action (Sartre 2021, 569).

Given that to be efficacious, agents must materially chain their corporeality into this organized instrumental structure, Sartre finds himself faced with what he calls a twofold contradictory necessity. On the one hand, human reality is a materially mediated world of tasks. This implies that agents must themselves be implements in order to act. On the other hand, a field of equipmentality, practically structured according to certain ends, must be structured and disclosed as such through a meaningful center from which these goal-directed structures of equipment arise in the first place. According to Sartre, the world "never refers to a creative subjectivity but to the infinite structures of equipment" (Sartre 2021, 433). The *key* to these complexes, i.e. the thing from which these complexes derive their meaning, is the human body in action. The human body in action represents the center of the individual's field of equipmentality:

> [T]his center is at the same time a tool [French *outil*] that is objectively defined by the instrumental field that refers to it, and the tool we are unable to *utilize* because we would be referred *ad infinitum*. We do not employ this instrument; we *are* it. It is not given to us in any way other than through the equipmental order of the world [...] through the univocal or reciprocal relations between machines, but it cannot be *given* to my action: I do not have to adapt to it, or to adapt some other tool to it; rather, it just is my adaptation to tools, the adaptation that I am. (Sartre 2021, 434–435, emphasis in original)

Sartre suggests that human beings exist as a tool to handle tools and that the action-signifying qualities of implements have ultimately arisen from the fact that agents make themselves into tools in order to act. In this quotation, Sartre's use of the French term *outil* becomes clearer. By occupying the position of means in the means-end relation, agents can take part in the inert causality of matter (see sections 2.3 and 2.4). As such, the body in "its *being-there* is justified in part by the situation that I create around me—as the presence of nails and the matting to be nailed to the wall justify the existence of the hammer" (Sartre 2021, 533, emphasis in original). The way humans *become* the tool to handle tools is thus an outcome of their free intention to act and their self-totalization. At the same time, it is a given that the only way to self-sustain is to act on the material world. In their totalizing world relation, human beings exist as "an instrument in the midst of other instruments [...] as *a tool for handling tools* [...] as a tool-machine [French *machine-outil*]" (Sartre 2021, 430, emphasis in original; Sartre 1943, 360). They exist as such at the center of a field of equipmentality that is structured in accordance with practical references in relation to certain tasks. It is the totalizing agent's ends through which implement-things refer to certain tasks within this field. These ends arise within practical human existence based on needs and/or desires.

Although implement-things refer to specific tasks, they do not prescribe actions. Sartre remains a vigorous defender of the fundamental significance of human freedom. Therefore, the factors that influence how and why certain implement-things are instrumentalized must be found within the course of totalizing action. Sartre thus advocates for a situation-specific instrumentalization of things based on their material properties.

## The Coefficient of Utility and Adversity

As regards the integration of instrumental means in the course of actions, Sartre argues in favor of a relative and situation-specific spectrum of *utility* and *adversity* over which these instruments range. The same is true for the human body as a means to handle tools. Both the body and various material entities have specific material properties that enable certain actions when used, while simultaneously constraining others. A pencil, for instance, can be instrumentalized as a writing tool because it is thin, long, sharp, and pointed, with a pigment core that rubs on various materials and can also be erased. Furthermore, the pencil has an established meaning as a means for making erasable drafts. In the hands of a capable fighter or an angry person, a pencil can also be a stabbing weapon or a dart. This makes it different from other objects with similar properties. A bottle, for instance, is also long and thin and has a small opening. The material from which it is made usually depends on the kind of liquid it is meant to store. The bottle is thus built to store and pour liquids. However, its relatively hard bottom means that it can also be used as a ham-

mer. A cup, in contrast, is made of porcelain and has a handle that allows the user to hold it while it carries a warm beverage without the user touching its warm surface. At the same time, a cup can be used to store other objects smaller than the cup itself. The same is true of more complex machines such as cars or trains. Both are highly specialized machines with specific material characteristics that render them useful for certain purposes and adverse for others. In postphenomenology, this is known as *multistability*, i.e. the potential of technological artifacts to support multiple practical relations.[4]

To account for the situation-specific utility and adversity of things in the course of action, Sartre borrows Bachelard's concept of the *coefficient of adversity* and further develops it into the so-called *objective coefficient of utility and adversity* (French *coefficient objectif d'utilité et d'adversité*) (Sartre, 2021, 435, 455; Sartre 1943, 380). This development stresses the fact that utility and adversity do not originate in things or the human body but in the user's specific status in relation to those things and the world. Sartre states:

> The screw is revealed as too big to be screwed into the nut, the support as too fragile to support the weight that I want to support, the stone as too heavy to be raised right up to the ridge of the wall, etc. Other objects appear as threatening for an equipment-structure that has already been established: the storm and hail for the harvest, phylloxera for the vine, the fire for the house. In this way, gradually and through the structures of equipment that are already established, their threat will extend right up to the center of reference that all these implements are indicating and it, in its turn, will indicate the threat through them. In this sense every *means* is at the same time favorable and adverse, but within the limits of the fundamental project that is actualized by the for-itself's arising in the world [French *tout moyen est à la fois favorable et adverse, mais dans les limites du projet fondamental réalisé par le surgissement du pour -soi dans le monde*]. (Sartre 2021, 436, emphasis in original; Sartre 1943, 364)

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4    Postphenomenological approaches differ in their conception of *multistability*. Ihde (1990), for instance, deduces the multistability of technological artifacts from their initial ambiguity and from the fact that the "'same' technology in another cultural context becomes quite a 'different' technology" (144). Rosenberger (2014) extends the concept of multistability and supplements it with the conception of *symmetry* from Actor-Network-Theory, so that "it becomes possible to consider the roles of user experience, and the role of technological multistability, within the overall agency possessed by networks of actors" (381). In this context, Sartre's conception of instrumental things as ranging over a scale of utility and adversity represents a pre-postphenomenological conception of multistability. His view considers the material properties in relation to the situatedness of agents. A more detailed juxtaposition of Sartre's approach and postphenomenology can be found in Müller (2017).

It is in virtue of the principal goal-directedness at the heart of human existence that things reveal their dispositional properties of utility and adversity. Things are not useful or useless per se; their utility and adversity arise in concrete action situations. When a person wants to commute between two distant places, for instance, a car's specific properties in connection to the properties of road infrastructure render it more useful than the human legs, given that both places are sufficiently connected. Of course, one's legs can be used to walk the distance but the outcome and side-effects of this action would be different if the same action were performed with a car. Section 2.3 showed that Sartre's theory of action takes the whole range of human possibilities into account. Action situations are imaginable in which the agent's very intention is to show the possibility of walking said distance, for instance. In this regard, the legs as means would have a higher utility than the car. Of course, in their everyday life, a person's intentions are more complex and interrelated. If the person intends to commute while also using the travel time to work, or when the person intends to commute more sustainably, a train may have a higher utility than a car.

In the context of using implements, Sartre plays on Heidegger's concepts of *ready-to-hand* (German *Zuhandenheit)* and *present-to-hand* (German *Vorhandenheit*). In Heidegger's philosophy of technology, these concepts refer to two modes in which equipmental things are given to the being-in-the-world. An equipmental thing is ready-to-hand when it is integrated into a person's practical dealings. In this mode, being-in-the-world does not reflect on the nature of the equipmental thing. When the equipmental thing, for whatever reason, causes disturbances in a person's practical dealings, it becomes present-at-hand. Now, the equipmental thing is reflected upon and disclosed as what it is, how it appears, etc. (Heidegger 2006, 66–76).

Sartre claims that the agent's body is not usually present in certain actions. According to him, in the act of writing, for instance, agents do not conceive themselves as holding a pen. Rather, they conceive themselves as using the pen to write or even as writing. This is because "[t]he consciousness of a man *in action* is unreflected consciousness" (Sartre 2021, 75). Consequently, instrumental action must not be understood as the mere use of an instrumental means with a fixed purpose. Rather, instrumental action is an enaction of the utility and/or adversity that is rooted in the materiality of the instrument as an inert medium in relation to an agent's needs and desires. Sartre states that "it is the chop of the axe that reveals the axe, the hammering of the hammer that reveals the hammer" (Sartre 2021, 674–675). The tool-being of the human body and instrumental things consists in the goal-directed and situated implementation of things, whose utility and adversity are enacted through processual, kinesthetic adaptation (see section 2.4). Hence, retracing and reversing instrumental reference always leads to the user as an end in itself (Sartre 2021, 436–437).

Sartre's understanding of how equipmentality and purposiveness are attributed to instrumental means culminates in a conception of the world as an exact correlate of individual possibilities that every agent actively enacts, in the course of practi-

cal existence (Sartre 2021, 436) (see section 2.4). The individual field of instruments correlates with the individual field of possibilities. Given that each human being is the center of an individual field of equipmentality that comprises instrumental-things/practical objects, and because this field is relative to the practical attribution of meaning through action in relation to the agent as an end in itself, the equipmentality of objects cannot be conceived as a solely objective property, nor can individual possibilities be conceived as solely subjective structures. Action possibilities are not something agents have, but rather something they enact by unifying their instrumental field toward their ends. The instrumental field of possibilities is not provided by the material world alone, nor is it constituted by the agent alone; it arises from the practical projection of ends in relation to given means (see section 2.3). Sartre states that:

> In the organism, bonds of interiority overlay those of exteriority; in the instrumental field, it is the other way round: a bond of internal unification underlies the multiplicity of exteriority, and it is *praxis* which, in the light of the end, constantly reshapes the order of exteriority on the basis of a deeper unity. (Sartre 1978, 87, emphasis in original)

Individual action projects toward intended ends according to which available things become instrumental means with situation-specific coefficients of adversity and utility. At the same time, the ends that individual action projects toward derive their attainability from the fact that there are instrumental means available through which these ends can be attained. Accordingly, the field of instruments corresponds to the field of possibilities, because the field of instruments as the unity of available means is always transcended toward attainable ends. Instruments are material potentials that require human action to be realized as such. Human action as a goal-directed activity must simultaneously rely on potentials that both exist and are available in order to be realized. Equipmentality is thus a result of dialectical human existence. Ends are apprehended as such when they are conceived as attainable through available means. Means in return are apprehended as available in relation to attainable ends (Hubig 2006, 127, 173). Implement-things thus shape how agents actually realize their intended ends in the course of action (see section 2.3). They do so by enabling the practical realization of certain ends based on the relationship between intended ends and their suitability and availability for practically attaining these ends.

Owing to the principally practical character of human existence, agents instrumentalize their surrounding materiality based on its situation-specific properties. Therefore, Sartre states that human beings exist "in the form of being-an-instrument-in-the-midst-of-the-world" (Sartre 2021, 436), which, in the original French, reads "d'être-instrument-au-milieu-du-monde" (Sartre 1943, 365). Following this understanding, human existence represents an instrumental mode of being ac-

cording to which surrounding things are principally structured along "axes whose reference is practical" (French *axes de référence pratiques*) (Sartre 2021, 431; Sartre 1943, 361). The world that is totalized in the course of action thus has an instrumental character to it. It arises in relation to the intentional means-ends structures of individuals.

## 3.3  The Social Side of Things

This section focuses on Sartre's thoughts about the relationship between implements, body techniques, and the social milieu in which these come to use. Although Sartre advocates for the fact that equipmentality is dialectically attributed to things in virtue of individual, practical world-directedness, he is not blind to the fact that human beings necessarily find themselves engaged in a world of subject-independent meaning—meaning which they have not put there themselves, but which nevertheless influences their mode of self-realization (Bonnemann 2009, 14). Sartre states that things have a fundamentally signifying character because meaning is inscribed into them through human action. For him, human beings relate to a larger social structure through the use of both technological artifacts and body techniques.

### Inscription

Sartre's thoughts on inscription can be illustrated by how he distinguishes between the experience of objects that have not been *worked on*, and the experience of objects that have been *worked on*, i.e. manufactured objects. Again, the distinction Sartre has in mind does not concern the ontological status of these objects in particular but the nature of the relations that humans engage in by virtue of the objects' features. It is not a distinction between *artificial* and somewhat *naturally occurring* objects. He states:

> Faced with an inanimate and uncrafted object, whose operation I myself determine, and to which I myself assign a new use (if, for example, I use a stone as a hammer), I have [an immediate] consciousness of my *person* [...] of my own ends and my free inventiveness. (Sartre 2021, 561, emphasis in original)

Objects that have not been worked on initially refer to the agent who discovers them and to whom these objects signify an individual possibility for action. The experience of these objects is characterized by individuality (especially in terms of the agent's ends), inventiveness, and spontaneity. The meaning of these objects derives from how they are incorporated into the agent's project. Various meanings might be, for instance, attributed to a rock. When the rock is discovered while strolling

or hiking on a path, it may be an obstacle to be circumvented or a landmark to be contemplated; when discovered in an urgent situation where something has to be shattered, the rock may be a hammer or a weapon, and so on. The rock is not an obstacle or an object of contemplation by virtue of being but becomes those things in relation to the agent's course of action (Sartre 2021, 665). As such, this object influences the course of action. However, the exact scope of this influence depends on the agent's apprehension of means and ends in relation to their self-realizing project.

The experience of manufactured objects is different from that of objects that have not been worked on. According to Sartre,

> any manufactured object must—in order to qualify as such—invoke the producers who made it and the rules for using it which other people have determined […] As a matter of their essential structure, the rules for use, the 'instructions' for manufactured objects—which in their simultaneous rigidity and ideality, resemble *taboos*—place me in the other's presence. (Sartre 2021, 561, emphasis in original)

In contrast to objects that have not been worked on, manufactured objects do not initially refer to the agent but to the larger social milieu, the agent is part of. Although the notion of *manufactured* implies *artificial* as an ontological quality of these objects, Sartre emphasizes the fact that manufactured objects first and foremost express a certain supraindividual purposiveness. This purposiveness precedes individual action and manifests in these objects. Rather than signifying individual *possibility* based on the agent as a free project, manufactured objects signify an *opportunity* as a fixed and socially predetermined way of doing things. This can be understood as an *affordance*, i.e. a material cue that solicits agents to interact with it in certain ways (Gibson 1966; Rietveld & Kiverstein 2014; Dings 2018). In *The Design of Everyday Things*, Norman states the following about affordances:

> The term *affordance* refers to the relationship between a physical object and a person (or for that matter, any interacting agent, whether animal or human, or even machines and robots). An affordance is a relationship between the properties of an object and the capabilities of the agent that determine just how the object could possibly be used. A chair affords ('is for') support and, therefore, affords sitting. Most chairs can also be carried by a single person (they afford lifting), but some can only be lifted by a strong person or by a team of people. If young or relatively weak people cannot lift a chair, then for these people, the chair does not have that affordance, it does not afford lifting. The presence of an affordance is jointly determined by the qualities of the object and the abilities of the agent that is interacting. This relational definition of affordance gives considerable difficulty to many people. We are used to thinking that properties are associated with objects. But affordance is not a property. An affordance is a relationship. Whether an

affordance exists depends upon the properties of both the object and the agent. (Norman 2013, 11, emphasis in original)

This passage brings the concept of affordance close to Sartre's thoughts about the coefficient of utility and adversity of things. In Sartre's case, affordance must be extended to the socioculturally established and accepted meaning and purpose of objects. The shape of a handle or a button, for instance, affords it to be pushed because, on the one hand, it is built so as to be pushed, and, on the other, it has an established meaning as a thing that is to be pushed in an agent's sociocultural milieu. The difference here between possibility and opportunity is marginal only with regard to the actual course of individual action, but the difference directly expresses a variability in how the individual agent relates to the world and to the sociocultural milieu it is part of by virtue of using manufactured objects. The use of manufactured objects according to relatively fixed methods not only represents an individual action in the sense of a means-end relation. It also represents a social relation to a larger societal constellation already in place. The individual experience of manufactured objects is thus characterized by (relative) uniformity and anonymity. Sartre claims that manufactured objects address themselves to everyone in their field of equipmentality and that "a human transcendence, guiding my transcendence, has already slipped in between the object and myself; the object is already *humanized*, and signifies 'the human kingdom'" (Sartre 2021, 561, emphasis in original).

Sartre illustrates the fact that manufactured objects signify subject-independent human ends by the various meanings discovered to have preceded individual choice when walking through a lively city:

Consider, for example, the countless meanings, independent of *my* choice, that I encounter if I live in a town: streets, shops, trams and buses, signposts, the sounds of car horns, wireless music, etc [...] When I encounter a house at a bend in the road I do not reveal only a brute existent within the world; I do not make it the case only that *there* is a 'this,' characterized in such and such a way. Rather, the meaning of the object revealed to me here resists and remains independent of me: I discover that the building is an apartment building if the offices of the Compagnie du Gaz, or a prison, etc. Here the meaning is contingent, and independent of my choice, and it is presented with the same indifference as the in-itself's reality: it has become a *thing* and cannot be distinguished from the in-itself's *quality*. In the same way, I encounter things' coefficient of adversity before I experience it; a host of notices warn me: 'Slow down, dangerous bend,' 'Attention! School,' 'Danger of Death,' '100m to Cassis,' etc. But the fact that these meanings are deeply inscribed in things and share their indifferent externality—at least in appearance—does not make them any less indicative of a mode of behavior to be adopted that concerns me directly [...] Do I not discover here some narrow limits to my freedom? [...] I submit to these directions: to the coefficient of adversity in things that is engen-

dered by me, they add a coefficient of adversity that is strictly human. In addition, if I submit to this structure, I depend on it. (Sartre 2021, 664–665, emphasis in original)

Street signs, traffic lights, and buildings are not *brute existents* to which meaning is conferred through individual action in the first place. These things already constitute a world, a meaningful totality that informs, supports, and directs individual action. Of course, the practical meaning, utility, and adversity of these things still arise within the agent's project, but this project itself must be understood less as a practically free invention of the world and more as an ontologically free self-embedding. The embedding happens into an already social, cultural, material, and thus historically structured wholeness that is shared with others. This wholeness of things and social expectations, norms, values, and opportunities scaffolds the agent a certain socially formed way of practical interrelating and thus a certain way of existing.

## Body Techniques

The same is true for the implementation of several body, social, and intellectual techniques.[5] The employment of these techniques, such as "to know how to walk, to know how to pick something up, how to judge the relief and the relative size of perceived objects, how to talk, how to distinguish, in general, between the true and the false, etc." (Sartre 2021, 667) further delimits and focuses actions. Such techniques as *knowing how to speak* are not "an abstract and pure knowledge of the language, as it is defined by dictionaries and academic grammars" (Sartre 2021, 667), but are the execution of practical language competency with which agents both situate themselves in a societal constellation and apprehend the world according to this constellation. This can be applied to other techniques. In that people, for instance, ski like a Savoy, talk like a German, work like a proletarian or an academic, and so on, they accordingly disclose their world as Savoyens, Germans, proletarians, or academics. Furthermore, they situate and embed themselves in these respective social milieus by implementing the techniques that refer to these milieus. According to Sartre,

[t]hese techniques will determine my membership of communities: of the *human species*, the national community, the professional and familial group [...] the only positive way in which I can *exist my de facto membership* of these communities is the use that I constantly make of the techniques associated with them. (Sartre 2021, 666–667, emphasis in original)

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5    Sartre's thoughts on body techniques resemble those of Mauss' *Les techniques du corps* (1934, transl. 1973).

The way agents give meaning to the world through their actions is thus also conditioned by the culture-specific techniques by which they embed themselves in it (Bonnemann 2009, 16). This means not only that the nature of the agents' meaningful relations to the world depends on the way they interiorize the world as a practical field of possibility, but also that this interiorization is itself technically mediated by culture-specific bodily, social, and cultural techniques (Sartre 2021, 668). People neither fully constitute these techniques nor can it be said that these techniques constitute people. Sartre mentions that just as agents enact their existence in the course of action by adapting their embodied self to their situation (see section 2.4), and just as they enact the equipmentality of things (see section 3.2), these agents also enact the effects of techniques—the existence of words, for instance, by speaking, or the revelation of instruments through their practical use (Sartre 2021, 672–675).

In other words, agents realize the facticity of techniques and thus of the societal milieu, these techniques arise from. Although belonging to such constellations is contingent, agents enact this belonging through their actions. In this regard, these agents establish the necessity of the technical connections between themselves and their world in the self-totalizing course of their goal-directed actions. Through these techniques, the supraindividual structure these agents are situated in conditions the course of actions in fundamental ways. Through their situated actions, agents are not only "thrown into a world that is working-class, French, with the character of Lorraine or of the South, and which offers me its meanings when I have done nothing to reveal them" (Sartre 2021, 668)—they also realize themselves as situated in this world.

By employing such techniques, agents not only embed themselves in larger societal constellations but also recognize the significance of these constellations as action-guiding by acting according to the constellations' structures (Sartre 2021, 665–668) (see section 2.4). The later Sartre refers to language and similar body techniques as belonging to the practico-inert field; this is discussed in section 4.5. Although manufactured objects and certain body techniques seem to impose structured and predisposed activities on the individual, instead of allowing it to freely organize their situation according to its mediating milieu (Sartre 2021, 666), Sartre makes clear that these activities and the dialectical instrumentality of manufactured objects nevertheless have to be enacted through individual action to exist. According to him, instrumental means and techniques have no validity outside human reality (Sartre 2021, 674–675) (see section 2.4).[6]

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6    In this context, Sartre offers an interesting argument on the nature and application of techniques. He mentions that techniques do not apply themselves according to a fixed inner logic. This means that techniques, as means, do not automatically provide the agents that employ them with fixed ends. If it were so, these agents would resemble pilots who make "use of the determined forces of the wind, the waves, the tides, in order to steer a ship" (Sartre 2021, 672).

## 3.4  The Practical Inertia of Technological Objects

The goal of this section is to examine how some of Sartre's thoughts on technology, such as dialectical instrumentality and the social side of things, find their conclusion in his conception of the practico-inert for technological artifacts. The practico-inert complements Sartre's earlier thoughts about both the significance of instrumental means in the course of action and the way these means propose certain action potentials to their users. It plays a significant role in Sartre's later philosophy as it allows one to make more general assumptions about the role of technology in human history. Therefore, it relates to the view that this work outlines for practical ensembles.

### The Practico-Inert

The practico-inert is a complex concept in Sartre's philosophy. It combines assumptions about the dynamics of human action, the relation between humans, materiality in general, technology in the form of technological artifacts and body techniques in particular, as well as the processual nature of history. According to Flynn, "'[p]ractico-inert' denotes that realm of worked matter, sedimented praxis, passivity, and counterfinality—matter as the negation of action" (Flynn 1997, 121). Although this description represents the practico-inert in a seemingly negative light, all the factors Flynn mentions ultimately illustrate why this concept is so significant for both Sartre's understanding of history and his theories on practical ensembles.

In its more general meaning, the practico-inert denotes a certain way in which the meaning of an active practical world-relation is reified as a materially inert, passive fact in the world. This fact, through its materiality, remains a material fact and both faces and potentially outlasts human existence and action. In the context of Sartre's theory of history, the practico-inert enables historical transformation and the stabilization of order in any regard. Despite the emphasis on inert matter, the practico-inert is not limited to non-human entities such as technology in the form of instrumental means or artificial objects. K. S. Engels (2018) identifies five layers of the practico-inert in Sartre's philosophy: physical artifacts, language, deeply ingrained ideas or attitudes, social objects such as social formations and categories that are stabilized by matter, and *class-being*, or collectively shared life conditions

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This would require a *technique of techniques* which, if also applying itself, would end in a vicious circle where "any possibility of meeting the technician" (Sartre 2021, 672) would be lost forever. Consequently, it must be the agents themselves who enact these techniques and their practical effects. This line of thought, as well as the example of a pilot steering a ship through the use of techniques, resembles the art of steersmanship known as cybernetics (Ashby 1957, 1).

that predispose the actions of individuals belonging to the collective. All these layers have certain practico-inert characteristics. However, fundamentally these layers can be traced back to practical human interrelations with other material entities. These interrelations are mediated by worked matter, either in the form of material objects and structures that coerce humans to modify their actions under certain conditions or in the form of the *hexis* of the human body itself, through which routinized actions and societal norms are enacted (see section 4.5). For this reason, this analysis puts less emphasis on all possible layers of the practico-inert as such and more on the practico-inert as it is found in the practical inertia of technological artifacts as well as on the way agents interrelate with these artifacts.

From a philosophical perspective toward technology, the appeal of Sartre's conception of the practical inertia of physical artifacts lies in how it allows one to more generally reflect on the role of technology in human history. Practico-inert artifacts are seen to interfere with the course of individual action in intricate ways. Sartre's entire theory of history is built on these slight interferences of action, and on the fact that human beings necessarily have to come to terms with the interferences. Despite the focus on technology, some of Sartre's thoughts about history and society must therefore be treated here to understand the full spectrum of the practical inertia of physical artifacts.

With the practico-inert, Sartre underpins this fundamentally signifying character of technological objects with a materialist and historical basis and explores how history itself is manifested in the tools and machines humans use to tackle their needs and desires.

## Exteriorized Function

In his introductory passages on the concepts of *totality* and *totalization* in *Critique*, Sartre claims that a material thing to which meaning has been fixed through totalization is not entirely reduced to nothing when the totalization ceases—for instance when it is no longer used, when the function for which it is supposed to be used is forgotten, or when its usual use context has become obsolete. This thing remains a material entity with specific built-in material properties. As such, it still lays claim to the ontological status of the in-itself (Sartre 1978, 45). It still has a situation-specific utility and adversity attributable to it based on its material properties and in relation to the agent's situation.

In the case of non-manufactured objects, the properties that render them useful and adverse result from physicochemical processes of growth, decay, climate, tectonics, etc.—a branch has grown in a specific way so as to be used as a pointer or a weapon, yeast ferments complex carbohydrates into more digestible ones which makes yeast useful for food processing, penicillium molds produce antibiotic substances that can be used in medical production. Even chance plays an important role

in resulting in the properties that make non-manufactured things useful. A stone, for instance, can roll off a hill, hit another rock, split, and thus have sharp edges which makes the stone useful for cutting, stabbing, etc.

In the specific case of technological artifacts, such as tools, machines, and certain built structures, the manufacturing process itself is responsible for the properties that make them useful for aiding in certain tasks and for performing or enabling certain actions. When it comes to tool construction, Sartre states that in human existence, *praxis* "is function exteriorised" (Sartre 1978, 83) (see section 2.3). According to Sartre, tools, machines, and other manufactured objects of utility serve three purposes. First, they are the means by which human beings put their inertia into practice to realize themselves in relation to their material surroundings. Second, tools and machines support the inertia of the human body in performing specific tasks. Third, tools and machines are materialized options for action and forms of conduct. They represent the "passive unity of the practical relation between an undertaking and its result" (Sartre 1978, 165).

According to Sartre, "[a] tool is in fact a *praxis* which has been crystallised and inverted by the inertia which sustains it, and this *praxis* addresses itself in the tool to anyone" (Sartre 1978, 186, emphasis in original). In Sartre's understanding, the same is true for any other practical object of utility. Through their practical interrelations, both in terms of totalizing action and experience, human beings not only inscribe their projects into matter through utilization and social significance. They also form said matter so that it can be used as a means toward an end. Things are constructed blunt, sharp, pointy, heavy, shining bright, with specific forms and shapes, with drives, rotators, wheels, wings, analog and digital functions, and so on. As such, they afford one the opportunity to smash, cut, sting, weigh down, illuminate, hold, accelerate, drill, carry, lift off, calculate, and connect. All of these things represent materially inert facts that are residuals of the prior exteriorizing and totalizing practical interrelations between human beings and their surroundings.

According to Sartre, the fact that human action is materialized in inert matter changes the character of the thusly engraved project:

> In losing their human properties, human projects are engraved in Being, their translucidity becomes opacity, their tenuousness thickness, their volatile lightness permanence. They *become Being* by losing their quality as lived events; and in so far as they are Being they cannot be dissolved into knowledge even if they are deciphered and known. (Sartre 1978, 178, emphasis in original)

In becoming materialized, practical relations lose their human characteristics. Fluid activity becomes a passive being (Sartre 1978, 161). Human action/*praxis*, as an inventive and goal-directed process toward the future, becomes a materially manifested entity. As it unfolds the action-signifying qualities that were discussed in section 3.3., the tool, the sign, and the machine "proposes itself to men and imposes itself

on them; it defines them and indicates to them how it is to be used [...] the tool is a *signifier* [...] man *here* is *signified*" (Sartre 1978, 161, emphasis in original).

However, in becoming material facts, practical interrelations between humans and their surroundings escape their control. Sartre states:

> But precisely because signification takes on the character of materiality, it enters into relation with the entire Universe. This means that infinitely many unforesee-able relations are established, through the mediation of social practice, between the matter which absorbs *praxis* and other materialised significations. (Sartre 1978, 161, emphasis in original)

Although technological artifacts imply their equipmentality and the social conditions of their production, they are material facts detached from a factual course of action. As such, they represent materialized action potentials that must be awakened by an individual agent:

> A project *awakens* significations; it momentarily restores their vigour and true unity in the transcendence which finally engraves this totality in some completely inert but already signifying material, which might be iron, marble or language, and which others animate with their movement from beneath, like stage-hands creating waves by crawling around under a piece of canvas. (Sartre 1987, 182, emphasis in original)

Tools and machines are inert material entities that are open to being used as means by whoever intends and can do so. They exist as such only at the outskirts of a person's concrete practical field of possibility and equipmentality: as an abstract, not yet concretized and actualized potential for certain courses of action.

Sartre contrasts human tool construction with how, according to him, other species "make tools of themselves" (Sartre 1978, 83). He mentions that certain species of animals "make themselves permanently inert in order to protect their lives [...] instead of using their inertia they hide it behind a created inertia" (Sartre 1978, 83). With this statement, Sartre seems to suggest that, owing to their organic functioning, certain animals are restricted to specific ways of life. They must satisfy their organic requirements within specific habitats and ecological niches because their particular bodily inertia (organs like lungs and gills; appendages like wings, claws, beaks, trunks, etc.) has become adapted to this ecological niche. In contrast, human beings do not make their inertia permanently inert. What becomes permanently inert is their action, their *praxis*, as a function of human existence, when it is reified and manifested in matter through the construction of tools, machines, and other structures. In Sartre's understanding, a tool, a machine, or any built structure or practical object, for that matter, thus represents an exteriorized function of a concrete human existence situated within a socioculturally structured mediating milieu. In reverting to the strategy of situation-specific tool construction and use,

humans do not directly restrict themselves to specific ways of life. They can adapt to given conditions as a result of their dialectical relation to a scarce environment in the course of history. Human beings thus not only exist as the adaptation to tools in the mode of being-an-instrument-in-the-midst-of-the-world (see section 3.2). They also adapt themselves to the exigencies of their environment that result from their inherent needfulness (see section 2.3).

Sartre's reasoning about human tool construction and use allows for two anthropological statements about human nature. Both are prominent in the philosophy of technology. The first is that humans essentially are *beings of excess*, and the second is that humans essentially are *beings of deficiency*. The idea that humans are excessive beings can be found in Kapp's *Grundlinien einer Philosophie der Technik*. The main thesis of this book is that tools and machines must be understood as projections of human organs and of the human body as such. Accordingly, a hammer, for instance, is understood as a reinforced and exteriorized projection of the human hand (Kapp 2015, 52); optical and acoustic technologies represent projections of eyes and ears (Kapp 2015, 84), and so on. Kapp claims that the whole of technological culture represents a continuation of human evolution ultimately driven by the fact that human beings have the urge to exceed the limitations of their milieu (Huning 2013, 216; Hubig 2006, 85). In this regard, technology has to be comprehended as an exteriorization of human nature. In tools and machines, humanity faces itself as *Deus ex Machina*, an ever-creative being that emerges from its built environment (Kapp 2015, 311). In opposition to such rather optimistic and appreciative thoughts about humans and technology, Gehlen's *Die Seele im technischen Zeitalter* goes in a different direction. Here, technology is considered a supplement for human deficiency. According to Gehlen, humans are senseless, weaponless, and naked, and thus dependent on action and technology (Gehlen 2007, 6). Eventually, technological development leads to the application of technological principles to social processes, which ultimately causes a general loss of meaning regarding the way humans relate to the world in industrialized society (Hubig 2013a, 152).

Sartre does not endorse such general statements about human essence, however. Despite the anthropological agenda of his philosophical writings, Sartre rejects general assumptions about human essence. Rather than conceiving tools, machines, and other structures to be a necessity of human existence, either as a result of excess or deficiency, Sartre considers these entities to simply be outcomes of the dialectical character of human existence, human needfulness, and the plasticity of the physicochemical universe in the process of history. Although smartphones, spaceships, or the internet, for instance, are highly technological achievements, Sartre would refrain from tracing them back to some essential human deficiency or ingenuity. According to his understanding, humankind did not fly to the moon out of a supposedly insatiable and general curiosity inherent to human beings. They did so

to demonstrate power and technological prowess in a given historical situation, or to close gaps in their respective knowledge of the universe.

## Technology and History

In every practical interrelation with surrounding, inert materiality, human actions are exteriorized and translated into matter and thus inverted into a passivized form. This passivized form represents a synthetic unity of its materiality, potential purposiveness and equipmentality, and sociocultural history. In a rather dense passage from *Critique*, Sartre brings these ideas together. He states:

> Every *praxis* [...] envelops the inanimate things in a totalising project which gives it a pseudo-organic unity. By this I mean that this unity is indeed that of a whole, but that it remains social and human; *in itself* it does not achieve the structures of exteriority which constitute the molecular world. However, if the unity persists, it does so through material *inertia*. But this unity is nothing other than the passive reflection of *praxis*, that is to say, of a human enterprise undertaken in particular circumstances, with well defined tools and in a historical society at a certain point in its development, and therefore the object produced reflects the whole collectivity. But it reflects it in the dimension of passivity. (Sartre 1978, 161, emphasis in original)

In Sartre's understanding, tools, machines, and practical objects, and any residuals of human action, must not merely be understood as material objects plain and simple. These residuals bear witness to the never-ending struggle against scarcity that is human history. Like a wax seal, humans imprint their actions into the material world, which then "*returns* (*retourne*) the act [...] [and] reflects the *doing* as pure *being-there*" (Sartre 1978, 161, emphasis in original). A trampled path, fingerprints, chipped corners on a table, dog-eared pages and stains in much-read books, and callous hands are only minor instances in which human actions resist these humans by being passivized, factual, and material effects of past actions. Every tool and machine, each part of the built environment, roads, and houses, straightened rivers, domesticated animals, deforested and reforested woods, the organization of societies around material symbols or their function carriers, the way institutions exert their power as real relations between things, individuals, and collectives—all of these represent human causality, cultural history, and finality in the form of passive, material entities and their interrelations.

   With this conception of the practico-inert, Sartre's thoughts about the dialectic of action and technology come full circle. They link a person's individual and goal-directed use of technology to the entire history of their becoming as well as to their existential struggle with their surroundings. An implement-thing is always disclosed as such owing to the practical character and finality of human existence. Through

these factors the material properties of the implement-thing have come to be pro-
duced in a certain way, within a given historical situation; this again connects the
implement-thing as a potential implement to a certain course of action that can be
actualized with it.

These artifacts, in the wide sense of that term, reflect the actions, strategies, and
struggles through which individuals tackle their needs and desires. The inertia of
these artifacts has been constructed in correlation with these actions and strategies
and it is ongoing *praxis* that keeps these artifacts in the constant process of totaliza-
tion. Sartre states:

> In the case of practical objects—machines, tools, consumer goods, etc.—our
> present action makes them seem like totalities by resuscitating, in some way,
> the *praxis* which attempted to totalise their inertia […] these inert totalities are
> of crucial importance […] they create the kind of relation between men which
> we will refer to, later, as the practico-inert. These *human* objects are worthy of
> attention in the human world, for it is there that they attain their practico-inert
> statute; that is to say, they lie heavy on our destiny because of the contradiction
> which opposes *praxis* (the labour which made them and the labour which utilises
> them) and inertia within them. But, as these remarks show, they are products.
> (Sartre 1978, 45–46, emphasis in original)

The practical inertia of tools, machines, and practical objects reflects their artifac-
tuality and thus the societal conditions and constellations in which these artifacts
were produced. In the case of technological artifacts, the term *practico-inert*, there-
fore, denotes the tension of their general becoming through human action and their
specific historical-practical becoming under certain sociocultural conditions. This is
because these artifacts are passive traces of past actions. In this regard, the practico-
inert is history's counterpart to the essence of human existence. It is "the *essence* of
man in the sense that essence, as transcended past, is inert and becomes the tran-
scended objectification of the practical agent" (Sartre 1978, 72, emphasis in original)
(see section 2.3). It is factually given and retroactively relates the current course of
history, based on totalizing action through the instrumental means used, with the
way the course of history has unfolded up until a certain point in time. The practico-
inert is thus a dialectical and historical category rather than a material or ontologi-
cal one. As a discursive phenomenon, it expresses the fundamental contradiction of
human history—it represents humanity's ongoing struggle against scarcity through
the oscillation of liberation and necessitation, based on totalizing action, in a more
or less self-contained, passive material totality.

Human activity inscribed into matter in the form of the practico-inert is neither
a social construction nor a mental addendum to lifeless materiality. Sartre writes, in
discussion with Hegel and Marx, that the *idea* of things that confront agents in their
practical existence is in these things themselves. Sartre agrees with Marx's mate-

rialistic reinterpretation of Hegel's conception of thought or *idea* as the *demiurge* of the world. According to Marx, the real world is not thought but the interiorized relation to the material world (Marx & Engels 1962, 27). To this, Sartre adds that the interiorized world is not a clear mirror image but rather a distorted picture of the material world, because human beings apprehend the world through their practical existence as a practico-inert residual of past actions. The material world is as much an enabling as a constraining factor that transforms and translates *praxis* into inertia, and because of this human beings recognize themselves and reflect their actions as mediated by *worked* matter. Sartre claims that his *idea of matter* is thus both naturalistic, because the natural properties of things are the source of their utility, and materialistic because these things appear just how they are by virtue of being—but "above all, it is *praxis* [and thus history] reverberating through a thing" (Sartre 1978, 171, emphasis in original).

## Concretized Need

Technological artifacts are materialized, passive, and unrealized potentials for action within a given form of societal organization at a certain time in history. These artifacts are readily available, concrete means that enable the realization of concrete ends. It is not the case that humans must always look for or even construct the material means to attain the ends deriving from a person's abstract structures of need over and over. Technological artifacts simultaneously propose the already practically concretized efficient and effective satisfaction of socioculturally accepted structures of desire. Consequently, technological artifacts, in Sartre's understanding, manifest abstract structures of need in a concrete form. They thus scaffold the necessary conditions for the possibility of satisfying human requirements, wants, and wishes by opening up certain practical fields of equipmentality and possibility. By entering their practical field of equipmentality and possibility through their totalizing action, human beings thus leave their abstract structures of need for the sake of the materially mediated and technologically manifested structures of desire that are prevalent in their form of societal organization. They thus delimit their practical freedom in a way that also includes the risk of total obliteration for the strategies that are proven to be efficient, effective, socioculturally accepted, and, most importantly, ready at hand.

Sartre thus mentions the practical inertia of technological artifacts in the context of what he refers to as the field of *passive activity*. Although he does not give a clear definition of what he means by this term, it seems to denote roughly the conditions of possibility for potential courses of action, scaffolded and disposed by the socioculturally structured arrangement of concrete materiality in historical situations (Sartre 1978, 189, 199, 365). This passive sociomaterial disposition of the practico-inert is specified and realized in the course of individual action in virtue of a

person's *active passivity*, which occurs in the form of an action disposition within that person's corporeality. Sartre argues that this action disposition can be found in the habituated routines of tool use known as *hexis* (see section 4.5).[7]

## 3.5  Technologically Mediated Existence

This section builds on the previous findings and explores how Sartre frames the way human existence is inherently mediated by technology. This conception of a technologically mediated existence is foundational for his theory of practical ensembles.

The close conjunction of self-realization and materiality shining through Sartre's thoughts on technology and the practico-inert illustrates the dialectical interrelation between liberation and necessitation that characterizes human existence. Ontologically free expression and self-realization through action afford a somewhat pre-structured whole of instruments and sociocultural norms that delimit options for action and thus enable action in the first place by providing a manageable field of possibilities. As a consequence, Sartre claims that the relation to the self and the relation to the world is ultimately modified by the objective world in general, and by practico-inert instrumental means and body techniques in particular. He states that every human being *is* the ends they have chosen to realize, on the one hand, and the means that realize these ends through the implementation of other means on the other. If both instrumental-things and body techniques play a role in how individual ends are chosen and realized, then the self, as the lived unity of realized ends, must be understood as objectively articulated and thus mediated through sociocultural and material settings that scaffold, predispose,

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7    Against this background, the creation of practico-inert objects represents a technological *path creation* or *path constitution* in the sense of a *path dependence*. A *path* can be understood as the result of a process in which multiple options for action are narrowed down to a fixed set of options in the course of multiple interrelated events (Sydow et al. 2012). In Sartre's case, this means that the material properties put into these objects in the process of their creation affect the potential context of their future use. Processes of path creation involve processes of self-reinforcement (Garud et al. 2010). For Sartre this can be illustrated through the self-reinforcing role of *hexis* as active passivity, in combination with the passively active practical inertia of artificial objects. This is explained in more detail in section 4.5. Simultaneously, the creation of practico-inert objects is path dependent itself, as it is based on the needs and desires of their creators. When future agents use these objects as instrumental means, they enact and perpetuate the same structures of need, desire, and satisfaction. Through the practical inertia of material artifacts, the past works its way into the future in the form of materialized strategies of satisfying needs and desires. This wider sense of path dependence can be specified by analyzing concrete cases in which specific properties of objects, resulting from how past agents responded to their needs and desires, affect future courses of action (Mayntz 2002). This is shown in section 4.3.

and hence enable and modify its realization (Sartre 2021, 665). The same is true for the relationship between human beings and the world, as Sartre expresses in the following quotation: "the world only ever appears to me through the techniques that I use [...] This world, seen through the use that I make of the bicycle, the car, or the train to travel through it, shows me a face that is strictly correlative to the means I am using" (Sartre 2021, 666).

Here, Sartre advocates for an understanding of self and world where these entities are fundamentally mediated by the means employed to totalize and thus realize both in the course of individual action.[8]

In *Critique*, Sartre states that "all matter conditions human *praxis* through the passive unity of prefabricated meanings. There are no material objects which do not communicate among themselves through the mediation of men, and there is no man who is not born into a world of humanised materialities and materialised institutions" (Sartre 1978, 169, emphasis in original). Since all *praxis* is conditioned by prefabricated meanings of the practico-inert and since existence represents a *praxis*-process, existence itself is technologically mediated. Human action/*praxis* is thus more than a self-realizing activity. It is a process deeply grounded in materially and socioculturally structured constellations from which practical opportunities are derived in the first place. However, owing to the fact that human existence, as a lived reality, still rests on the foundation of ontological freedom, the system of meanings into which human beings are thrown represents merely an abstract structure that finds its concretization in individual self-realization (Sartre 2021, 677). By enacting the equipmentality of objects and the reality of body techniques, human beings appropriate and thus fix and reinforce the meaning of objects and techniques for themselves and others. Through goal-directed use, objects and techniques are transcended toward individual ends. The experience of attaining (or not attaining) individual ends through objects and techniques (as means) represents an interiorization of exteriority through which certain means are inherently associated with certain

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8    Earlier, it was already mentioned that Sartre precedes the postphenomenological conception of *multistability*. With his thoughts on a technologically mediated existence, he also precedes one major postphenomenological conception, namely that of *technological mediation*. Postphenomenologists claim that human experience and therefore human reality is fundamentally mediated by technology in the form of material technology. By carefully retracing human-technology-world relations, postphenomenology seeks a better understanding of both human reality and technology (Ihde 1990; Rosenberger & Verbeek 2015). However, Sartre does not limit himself to material technologies. He also incorporates how social, cultural, and intellectual techniques mediate individual action and experience, and how these techniques mediate the relation between an individual and the societal constellation from which these techniques originate. His analysis therefore transcends the levels of experience and action. For a juxtaposition of Sartre's thoughts on mediation with those of Latour and postphenomenology, see Siegler (2022b).

ends (Sartre 2021, 680). The same is true for the simple fact that human beings learn from others which means to use for which ends. Either way, concrete actions and thus social concepts are conceived to be inscribed into material entities or forms of conduct. A guitar, for instance, represents the act of playing chords and music, a car the act of driving, a road the act of walking or driving on, walking and talking in a certain way represents a certain attitude or social membership, and so on.

Sartre develops this topic in his later works, claiming in *Search for a Method* that things signify actions and thus guide behavior as a mediating milieu in concrete situations. These mediated action situations represent *abstract schemata* that are *insufficiently determined* without an action that unifies them toward the future (Sartre 1963, 153). However, owing to the fact that human existence is inherently practical, human beings transcend every such abstract schema and relate it to themselves as concrete, self-totalizing existents that do not exist yet. Hence, the entities comprising these abstract action schemata represent *signs* that, as available means, indicate attainable ends and thus action situations that can be realized by the individual. Because this system of means and techniques is not a purely objective set of entities but a constituted wholeness structured according to sociocultural factors, the system not only signifies concrete actions but also reveals "men and relations among men across the structures of our society" (Sartre 1963, 156). The manifold relations between human beings and their technological means reveal the functional interrelations of their form of societal organization.

## 3.6  Concluding Remarks

The exploration has shown the connections between Sartre's action theory and his philosophical thoughts on technology. Technology represents a fundamental aspect of human reality. It must be understood against the background of human existence, experience, and action. These processes represent ongoing and spatiotemporal syntheses through which a human being enacts their existence (see Chapter 2). Tools and machines are enveloped in these processes and it is this envelopment from which these things derive their situation-specific meaning and equipmentality.

Sartre applies the same dialectical thinking to the material and artificial as he does to human existence. Human existence is not first a mere occurrence of being that is fused with consciousness. It is a synthetic process of the two and cannot be reduced to either the realm of being and matter, or the realm of consciousness and the mental. Tools, machines, and other practical objects also represent syntheses of being and consciousness. They are material entities to which meaning and practical relevance are ascribed in the course of human existence. These things are always disclosed as implement-things, due to the fundamentally instrumentalizing character of human action. Humans engage the material world in a practical and goal-

directed manner and totalize it as their practical field of equipmentality and possibility. Within this field, all things are already either bestowed with or questioned about their practical relevance for the totalizing individual. In this regard, things are always engaged against the background of the dialectic of means and ends.

The material properties of things and the social context in which these things are instrumentalized are important. Tools, machines, and other practical objects are constructed with specific material properties that render them useful for some and adverse for other use contexts. The socioculturally established and accepted meaning and purpose of these things also plays a role in how they are instrumentalized. By using such things and by employing certain body techniques, agents enact their equipmentality and effects. In doing so, agents also realize a social relation through which they situate themselves in a certain form of social organization. Furthermore, since technological objects result from goal-directed human actions in a specific historical situation, these objects are the practico-inert residuals of the strategies that human beings implemented to satisfy their needs and desires in the course of history.

When it comes to the role of implement-things in the course of action, Sartre is careful not to grant too much power to the things themselves. On the one hand, he argues that agents instrumentalize things based on their material properties and sociocultural meaning, that things shape the course of human action, and that things signify which use contexts they afford. Things thus not only directly influence how agents realize their ends, but they can also alter an agent's intended ends or enable certain ends to arise in the first place simply by providing the opportunity to attain them. On the other hand, he advocates that all of these effects of implement-things are possibilized based on an agent's ontological freedom and the practical directedness of human existence. In accepting both the determinative character of implement-things in a person's practical interrelation with the world and the condition of possibility for this determinative character in human freedom, Sartre points out that the relationship between humans, technology, and the physicochemical environment has a certain contradictory quality.

This tension between the somewhat determinative and action-shaping character of things and the ontological freedom and self-realization of human beings must be seen in the larger context of Sartre's philosophy. Chapter 1 already explored how Sartre's works focus on two interconnected planes of the existential reality of human beings: the internal perspective *of* an ontologically free agent in *Being and Nothingness* and the external perspective *on* this agent as a needful material being in *Search for a Method* and *Critique*. These two planes are dialectically mediated in the totalizing character of human action as outlined in Chapter 2. Sartre's philosophical thoughts on technology further explore how these planes intertwine, without necessarily trying to give a definitive answer to the contradictions of human action and technology.

In this regard, Sartre's philosophy can be called a dialectical philosophy of technology.[9] It is situated between the dialectical accounts of technology that lean toward a more Hegelian and a more Marxist dialectical school of thought. More Hegelian accounts of technology reflect on the dialectic of means and ends. Rooted in the Greek concept of *techne*—Greek for art, skill, but also a set of rules and the right knowledge of how to make or produce something (Aristotle trans. 2015, 198; LSJ n.d b)—such accounts expand the instrumental character of things toward the realm of knowledge and explore how to practically orient oneself in the world by reflecting on various aspects of technology. More Marxist accounts of technology reflect and criticize the societal implications of technological artifacts and systems. These accounts typically scrutinize the dynamics of power, society, and history with regard to technology.

Whereas Marxist accounts of technology dialectically scrutinize the relationship between society and technology, Hegelian accounts apply a dialectical thinking to reflect on the conditions of possibility that allow for something to be understood as *technological*. However, both accounts seek to do justice to the potentials and contingencies between human action and technology, both in the form of technological artifacts, processes, and rationales.

Based on his conception of totalizing action and dialectical instrumentality, Sartre advocates for a specific understanding of how the dialectical interrelation between human existence and physicochemical reality gives rise to its own possibilities and practical constraints. His understanding of technology is not specifically about technology in the sense of technological artifacts, structures, or systems. Rather, it is about the principally instrumental mode of being of the human condition.

Sartre uses the implications of his thoughts on technology to deconstruct and criticize how the forms of societal organization predispose the basic existential conditions of individuals throughout individual and collective history. The specific way in which such forms of societal organization form, transform, persist, and eventually disrupt, is fundamentally shaped by and manifested in the practico-inert technological objects that human beings use to satisfy their requirements, wants, and wishes. Also, *la force des choses* that was discussed in section 1.3 as the power of things and circumstances arises, when individuals within such forms of organization are coerced to satisfy their needs and desires and thus realize their concrete existence in socioculturally pre-determined ways.

Part 1 of this work has explored and systematized the theoretical foundations of practical ensembles. It provided an overview of Sartre's philosophical themes, outlined his change in perspective on the role of needs and desires throughout his

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9    The following is condensed version of a discussion on Sartre's dialectical philosophy of technology that can be found in Siegler 2022b.

works, developed a unified account of totalizing action and existence as *praxis*-process, and explored Sartre's dialectical philosophy of technology. Part 2 builds on these foundations, outlines Sartre's theory of practical ensembles, and applies it to sociotechnical systems of urban mobility.