RESEARCH ARTICLE

The Dialectics of Action and Technology in the Philosophy of Jean-Paul Sartre

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Abstract
This investigation provides an in-depth exploration of the dialectics of action and technology in the works of French philosopher Jean-Paul Sartre, both in terms of the concrete use contexts of technological artifacts and the entanglement between individual agents and their sociotechnical surroundings. Furthermore, it briefly outlines some potentials of Sartre's thoughts for debates in contemporary philosophy of technology. Throughout his works, Sartre approaches human action from different yet dialectically interrelated perspectives that are always accompanied by and developed in relation to reflections about technology. Against the background of a complementary conception of human action that is derived from Sartre's major works, the implementation of matter in the course of action primarily represents an instrumentalization. Things are thus always disclosed as implement things due to the practical character of human existence. Although things do not prescribe action, the material characteristics and properties of these things render them more useful for attaining some and more adverse for attaining other ends. Despite the ontological freedom of human beings, their position in societal forms of organization, to which Sartre refers to as practical ensembles, delimits their choice of means and necessitates them to satisfy their needs and desires with the limited means available. In this way, *la force des choses* arises, not as a result of the characteristics of technology but as an outcome of sociality and politics.

Keywords Jean-Paul Sartre · Dialectics · Action · Technology

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1 Introduction

This investigation provides an in-depth exploration of the dialectics of action and technology in the works of French philosopher Jean-Paul Sartre, both in terms of the concrete use contexts of technological artifacts and the entanglement between individual agents and their sociotechnical surroundings. Furthermore, it briefly outlines some potentials of Sartre's thoughts for debates in contemporary philosophy of technology.

Given the thematic focus of his philosophical writings, thinking of Sartre as a philosopher of technology seems to be somewhat far fetched at first. In *Being and Nothingness*, Sartre concerns himself with questions about the dialectics of being and freedom, the look of others, and the general dynamics of human action and existence. His earlier understanding of the *equipmentality* (French *ustensilité*) of things seems to be largely inspired by and correlating to Heidegger's understanding of *Zeughaftigkeit* in *Sein und Zeit* (Heidegger, 2006). By mainly focusing on Sartre as a phenomenological thinker in *Being and Nothingness*, Loeve et al. state that Sartre did not directly contribute to the philosophy of technology when compared to other French thinkers of technology, as he never supposedly developed a philosophy of technology on his own that escaped Heidegger's theoretical pull (Loeve et al., 2018, 14). The later Sartre, however, explores the dialectics of individual *praxis* and historical processes from a materialist perspective in discussion with Hegel and Marx in *Critique of Dialectical Reason*. Still, his later concept of *practical inertia* (French *practico-inert*), according to which "all matter conditions human *praxis* through the passive unity of prefabricated meanings" (Sartre, 1978, 169) and catalyzes the formation of serial structures in human society (Blättler, 2012; Kleinherenbrink & Gusman, 2018; Rae, 2011), might be easily dismissed as a naïve, deterministic understanding of the role of material artifacts in human history; an understanding that was often falsely attributed to Marxist schools of thought.[1] This investigation claims that Sartre did in fact contribute to the philosophy of technology with *Being and Nothingness* and *Critique of Dialectical Reason* but that the implications of Sartre's contribution to the philosophy of technology only reveal themselves through a complementary reading of Sartre's works against the background of how he addresses the quintessential problem at the heart of his philosophy.[2]

In a 1969 interview with *New Left Review*, Sartre mentions that his whole philosophical endeavor circles around the problem of "how to give man both his

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[1] Whether Sartre can be considered a Marxist existentialist, an existentialist Marxist, a Marxist who ultimately denied his existentialist roots, or an existentialist who addresses questions typically posed by a Marxist understanding of history is still up to debate. For more information, see Aronson (2019, 2020) and Betschart (2019). For a more thorough examination of Marx's understanding of technology and history, see Wendling (2009).

[2] A complementary analysis of the thematic connections, transitions, and overlaps of *Being and Nothingness*, *Search for a Method*, and *Critique of Dialectical Reason* with a focus on the dialectical interrelation between human existence, technology, and society can be found in Siegler, forthcoming. This investigation represents a condensed reconstruction of Sartre's thoughts on technology that are more extensively developed there.

autonomy and his reality among real objects, avoiding idealism without lapsing into a mechanistic materialism" (Sartre, 1969, 46). Throughout his works, he approaches this problem from different, yet inherently interrelated perspectives. In his early work *Being and Nothingness*, Sartre reflects on what can be called the internal dialectics of human existence, namely the fact that human existence represents a dialectically synthetic relationship of positing being and negating consciousness. The *Search for a Method* and *Critique of Dialectical Reason* mark a shift from reflecting on the internal to the external dialectics of human existence, namely the fact that human existence represents a dialectically synthetic relationship of individual and history. History, here, is understood as the common actions of individuals in relation to the material and sociocultural factors that are constitutive of and constituted by these actions in different forms of supraindividual organization (Sartre, 1978, 52). Sartre mentions that this shift in his philosophy comes from the fact that life has taught him *la force des choses* (Sartre, 1969, 44), which can be translated as force, strength, might, and potency among others, of things, or even as the power of circumstances.[3] The entire premise of *Critique of Dialectical Reason* is to understand the dialectical processing of history by apprehending the dialectics that are at work in the praxis, i.e. the historically situated actions, of individuals (Sartre, 1978, 40–43).[4]

Cornerstone of Sartre's philosophy is human action, which, for him, is much more than the causing of effects in the material world. Rather, it has a dialectically synthetic and inherently spatiotemporal character to it and represents the structural foundation of human existence and reality. When it comes to action, Sartre states that "being, in its case, is acting, and to cease to act is to cease to be" (Sartre, 2021, 623). To explore the scope of human autonomy and agency within a material universe and to understand *la force des choses*, Sartre develops a conception of human action and experience as dialectical totalization that only fully reveals itself in combination of his early and later works. Within this dialectical conception of action, Sartre's contributions to the philosophy of technology can be found. In all of his major writings, Sartre scrutinizes the manifold ways in which human beings relate to themselves and others as framed by their sociocultural and politico-historical situation. He thereby repeatedly discusses how implements and other practical objects, tools, and machines, as well as larger built structures, but also body techniques mediate the course of human action. This mediation takes its shape through a combination of the material features and properties of these material things and the larger sociocultural context in which their utilization takes place on the basis of the dialectical character of human action. From Sartre's understanding of the dialectics of action and technology, it follows that human existence must itself be understood

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[3] Throughout this investigation, *la force des choses* is used in French to maintain its broader understanding.

[4] For this endeavor, Sartre not only further develops and employs Lefebvre's regressive-progressive method to dialectically de-reconstruct the relevant factors that constitute the progression of historical processes with regard to the actions of individuals (Sartre 1963, 57; Simont & Trezise 1985, 109). He also develops an interlocking set of conceptions and assumptions about the material, dialectical, and quasi-systemic entanglement between human agency, technology, and society that is fundamentally driven by the dynamics of totalizing action (Siegler, forthcoming).

as inherently technologically mediated, since the concrete course of human action is shaped, not only in its execution but in its finality, by a dialectical interplay of goal-directed intentionality, needs and desires, the materiality of means, and the larger sociocultural context in which this action takes place.

This investigation starts with developing a unified account of human action as totalization that is derived by combining action-theoretical thoughts from Sartre's works. Then, the investigation builds on this unified account of action and proceeds towards Sartre's understanding of dialectical instrumentality. After that, the investigation opens towards the social implications that Sartre reflects on in relation to the dialectical actions of individuals. By combining Sartre's thoughts on material signification and the practico-inert, the investigation reveals the dynamics of what Sartre refers to as *la force des choses*. The investigation closes with a section on the potentials of Sartre's philosophy for contemporary debates in the philosophy of technology.

2 Unified Account of Action in Sartre's Philosophy

The aim of this section is to derive a unified account of human action in Sartre's philosophy by combining action-theoretical thoughts from Sartre's works *Being and Nothingness*, *Search for a Method*, and *Critique of Dialectical Reason*. The dialectics of action and technology only fully reveal themselves through a complementary understanding of Sartre's works on the basis of the dialectical character of action as totalization.

2.1 From Individual Action to Historical Praxis and Back

In his early work *Being and Nothingness*, Sartre's conception of action is derived from his understanding of human existence as a dialectically synthetic relationship of positing being and negating consciousness. From this understanding, Sartre follows that human action is an intentional and inherently free undertaking that modifies the "way the world is *figured*" (Sartre, 2021, 569) according to certain ends within concrete situations. These ends derive from the fact that every human being exists as a lack of being that strives towards completion for themselves due to the dialectics of positing being and negating consciousness. According to Sartre, this becomes most evident in the fact that human beings have certain desires (French *désir*) (Sartre, 1943, 123), for instance, thirst. Sartre claims that thirst is a desire that manifests within human existence as a negating relation to one's own posited facticity (Sartre, 2021, 139). In the process of self-realization through action, human beings may affirm or transform this facticity by either satisfying their desire in certain ways or by failing in the attempt. Either way, due to the fact that both affirmation and transformation require action to be realized, human beings never exist pure and simple. They always exist in becoming a future self that thus represents a negation of their current being, hence the title of Sartre's book *Being and Nothingness*.

This future self represents a fundamental lack of being that announces itself through the way in which desires arise within concrete situations to some extent.

According to Sartre, "[d]esire is a lack of being, and it is haunted in its innermost being by the being that it desires. In this way, desire testifies to the existence of a lack in human-reality's being" (Sartre, 2021, 140). Human existence exists in the mode of being for itself, as it simultaneously exists as what is lacking and as what is lacked. In this way, desires not only bestow a certain directedness upon human existence; human existence itself also exists as an end in itself (Sartre, 2021, 146–149). Consequently, every action must thus be considered intentional as it takes place within the process of realizing an individual end. According to Sartre, an "intention, by choosing the end that announces it, makes itself be" (Sartre, 2021, 623). In the moment in which desires arise, individual ends and thus future selves arise as well. Through the ends that arise from a human's desires, human beings disclose a specific state of things as "'a lack of…' (i.e., as a negatity)" (Sartre, 2021, 572) when they relate to their surroundings in a certain way.[5] They assess the state of things and determine what practically constraints their actions and what they have to do to potentially satisfy their desires. Desires thus provide a certain course of action qua finality, due to which, according to Sartre, it is "correct to claim that finality is causality in reverse" (Sartre, 2021, 186–187). Alongside the larger course of action and the ends that are to be attained through action, the necessary means that have to be utilized as mediators between the current and future state of the world arise as well.

Despite the fundamental role of desires in human existence, it is not the case that human beings are somehow determined by their desires. According to the early Sartre, human beings are ontologically free. Their existence represents a *relation to* and not an *identity with* being. In contradistinction to the existence of nonhuman entities, the essence of which *is* their existence (Sartre, 2005, 148), human existence *precedes* essence. This is due to the fact that human's relation to being represents a negation that consists in the attempt to realize future selves through action. In this regard, "'to be free' does not mean 'to obtain what one wanted' but rather 'to be determined in one's wanting (in the broad sense of 'choosing') by oneself'" (Sartre, 2021, 631). This irredeemable potential for self-determination corresponds to Sartre's idea of ontological freedom as the "the foundation of the ends that I will try to accomplish either through my will or through my impassioned efforts" (Sartre, 2021, 583). Irrespective of whether human beings act out of motifs or mobiles (Sartre, 2021, 585–586),[6] they act for themselves. In doing so, human beings not only realize their future selves, they also bestow meaning to their existence. They render their action situation meaningful by apprehending it as a such in the process of realizing it (Sartre, 2021, 711–718).

In *Critique of Dialectical Reason*, Sartre approaches human action as a mediation of internal and external dialectics, more precisely of interiority and exteriority. His later conception of *praxis* combines the internal dialectics

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[5] Poellner (2015) provides a more thorough examination of the connection between desires as *motifs* for action.

[6] In her 2003 translation of *L'être et le néant*, Barnes translates the French terms *motif* and *mobile* as *cause* and *motive*, whereas Richmond translates them as *reason* and *motive* in her 2018 translation. To maintain the original French meaning, the French terms will be used instead.

of human existence as an ontologically free, intentional, and goal-directed endeavor with the external dialectics of human existence as a material affair in relation to the way its surrounding physicochemical environment, its "milieu of exteriority" (French milieu de l'extériorité) (Sartre, 1978, 82; Sartre, 1960, 167), is constitutive of and constituted by the actions of others. According to the later Sartre, *praxis* is "an organising project which transcends material conditions towards an end and inscribes itself, through labour, in inorganic matter as a rearrangement of the practical field and a reunification of means in the light of the end" (Sartre, 1978, 734).

However, instead of focusing on the way in which the concrete ends of human action arise from how human beings relate to the world and to themselves by virtue of their desires, Sartre goes one step further down the structural moments of human existence. He now focuses on need (French *besoin*) (Sartre, 1960, 166). Sartre states:

> [N]eed is the first totalising relation between the material being, man, and the material ensemble of which he is part. This relation is *univocal*, and *of interiority*… Need is a negation of the negation in so far as it expresses itself as a *lack* within the organism; and need is a positivity in so far as the organic totality tends to preserve itself *as such* through it (Sartre, 1978, 80).

By shifting his focus from desires to needs, Sartre opens up his philosophy towards those practical constraints and material potentials that condition human existence beyond the *illumination of the constraint by freedom* within the action situation. This is due to the fact that, from a materialist point of view, individuals always exist in immediate and needy relation to a scarce milieu that constraints and enables their actions by structuring their conditions of possibility (Sartre, 1978, 80, 123, 127). Considering need as an initially immediate relation between the human organism and its physicochemical environment allows Sartre to analyze the ways in which desires are themselves already mediated and thus potentially transformed by the larger form of societal organization in which historical individuals are situated. Consequently, Sartre's conception of scarcity is derived from the fact that human existence is an ontologically free, yet corporeally manifested process that is dependent on material interaction with its physicochemical environment. In Sartre's later works, scarcity is a contingent fact of human life and a sufficient but not necessary cause of history (Monahan, 2008, 50–51). The only necessity in human history is human action. With his insistence on the primacy of human action and experience as modes of production of history, Sartre's dialectic is a dialectic *in* matter as opposed to Engels' dialectic *of* matter (Hartmann, 1966, 71).

However, due to the Marxist impetus of *Critique of Dialectical Reason* and the fact that Sartre further develops his thoughts on the external dialectics of human existence in his later works, the internal dialectics that are undoubtedly present in his conception of historical *praxis* are largely obscured. The binding concept through which Sartre thematically complements his early and later works is the dialectical principle of totalization. Considering action as totalization allows to capture all the nuances of Sartre's early and later thoughts on human agency.

2.2 Situated Action as Dialectical Totalization

Binding element between Sartre's early and later approaches towards human action is the dialectical principle of totalization that he introduces in *Critique of Dialectical Reason*. With this principle, Sartre captures the internal dialectical dynamics of human existence that he mentioned in *Being and Nothingness* while further developing them by adding a materially dialectical and external perspective to it. Sartre derives his conception of totalization from the concept of totality. He states:

> A totality is defined as a being which, while radically distinct from the sum of its parts, is present in its entirety, in one form or another, in each of these parts, and which relates to itself either through its relation to one or more of its parts or through its relation to the relations between all or some of them (Sartre, 1978, 45).

Totality is a category that describes entities understood as constituted through a synthetic unification, i.e., a *totalization*, of parts into a wholeness (in the sense of the German *Ganzheit*) in the course of human action and experience. Totalization represents a dialectical and potentially open-ended process of "developing unification" (Sartre, 1978, 46) that proceeds as a succession of the dialectical moments *positing*, *negation*, and *negation of the negation*, i.e., *affirmation* or *sublation*. A picture, a symphony, an instrument, an idea, a form of organization, and even the human self may represent totalities to some extent. All are outcomes of a dialectical sublation of interiorities and exteriorities that constitute and are constituted through human reality in the course of action and experience. More precisely, totalization is an interlocking of processes in which interiorities are exteriorized and exteriorities are interiorized. Unfortunately, Sartre does not give a general outline of how the dialectical moments actually succeed after another and result in totalities, if they do so at all. However, by closely following the thematic transition between Sartre's early and later works, such a general outline can be derived regarding human action as an entanglement of dialectical totalizations.

Everything starts either with need, as an immediate totalizing relation between human beings and their physicochemical environment, or with desire, as a potentially mediated relation. The need for water, for instance, makes itself known within the organism as a dry mouth, a slight headache, and generally decreased bodily and cognitive functionality. In a dialectical understanding, these interior physical symptoms represent positings of being qua the human organism as a material entity. Simultaneously, due to the ontological freedom at the heart of human existence, these interiorities represent negations of the said positing, because these interiorities manifest as a lack of being within human existence that strives towards satisfaction by virtue of representing an end in relation to itself. Since such interiorities manifest within human existence as a process of becoming, such interiorities must not be understood as physical or mental states but as moments within the larger processing of human existence. In that human beings strive towards satisfying their need for water, they thus exteriorize their interiority and engage in the material world. In this way, needy organisms become potentially acting subjects that relate to their physicochemical environment with the intention to satisfy their need. Consequently, need is not just a mere negation of posited interiorities

of being; rather, need represents a negation of the negation as it expresses itself as an engagement to dissolve itself (Sartre, 1978, 83). Need is "the lived revelation of a goal to aim at" (Sartre, 1978, 90). In most cases, however, needs are themselves already mediated by the larger ensemble in which human beings are situated in. As "socialized need" (Cannon, 1992, 134), the lack of water within the human organism and the concomitant interior physical symptoms can, for instance, result in a search for a plethora of different ways for satisfaction. Depending on how needs have been *historically*[7] satisfied*, agents may desire a bottle of water, a water fountain, a vending machine, a well, a faucet, etc. Regardless of whether immediate needs or mediated desires represent the foundation of action, both generate a certain existential urgency by projecting towards certain ends which motivate agents to exteriorize their interiority towards their physicochemical environment in a goal-directed manner. Despite this existential urgency, however, the goal-directedness of the potentially acting subjects bears witness to their ontological freedom as a relation to and not an identity with being.

In relating to their exterior milieu (Sartre, 1978, 82), some of the material properties and characteristics of this milieu, including the material entities within it, are again interiorized in a dialectical manner. Similar to the interior physical symptoms of thirst, the physicochemical environment is posited as a materially exterior fact qua being for these potential agents. Interiorizing the properties and characteristics of the physicochemical environment, the relation of need and/or desire represents a negation of the positing of these properties and characteristics. Through this negation, the physicochemical environment and the material entities within it are sublated and synthesized into what is referred to as *world* in phenomenological terms. The world is thus relative to the structure of those needs and/or desires by virtue of which agents have become engaged in it. Through the arising of needs and/or desires, "matter is endowed with a passive unity… by an organic being seeking its being in it" (Sartre, 1978, 81). In this regard, the notion *world* refers to a meaningful totality of material things and subjective relations that represents a concrete *lacking state of things* which simultaneously provides the practical field of possibilities in which action may potentially take place (Sartre, 1978, 90). In their relation to their world, agents thus discover themselves to be in a state of exigency that is characterized by scarcity and which requires action to be transformed (Sartre, 1978, 165).

By consequently following this line of thought, it becomes clear that the concrete course of action that must be realized to satisfy needs and desires is not entirely up to the choosing of agents. Rather, the course of action is an outcome of how agents intend to perform actions based on the way in which their needs and desires project towards certain ends that transform their surrounding materiality into a practical field of possibilities and into an exigent state of the world. In the emergence of needs and/or desires, ends and thus possible future states of the world arise. Human

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[7] In a Sartrean sense, the notion of *history* that is used here refers to a dialectical process that is driven through action and experience within certain forms of organization and with regard to material, social, and cultural factors. In this sense, individual history becomes regressively intelligible by retracing *how* these individuals desired in the past in relation to certain material, as well as sociocultural factors and the larger ensemble in which these individuals are situated in.

existence is thus always transcending towards the future while fundamentally resting on a material basis. However, since the previously posited and supposedly satisfying state of the world must be attainable or realizable, the initial positing of the said state as well as the success of any action depends on whether this practical field of possibilities is equipped with the adequate means that allow to realize the intended modifications. It must be noted that the practical field of possibilities neither is provided by the surrounding materiality alone, nor is it constituted by the agents willing. Rather, it arises within the course of action as an outcome of the dialectic between attainable ends and available means (Sartre, 2021, 280). Sartre states the following:

> In the organism, bonds of interiority overlay those of exteriority; in the instrumental field, it is the other way around: 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)

This means that the intended state of the world is relative to its possible attainability by virtue of the available means, whereas, dialectically, means are totalized as such according to the meaning that is attributed to them by virtue of their material properties and characteristics in relation to their utility for attaining certain ends. The meaning that is attributed to things as means is thus inherently practical. Sartre seems to borrow this dialectic of means and ends from Hegel's conception of action as outlined by Hubig (2006, 125–135).

The dialectical conjunction of goal-directed subjectivity, intended ends, instrumental means, and objective world is what constitutes the action situation. At this point, however, there merely is the intention to act and a fuzzy outline of a situation, not the actual realization of said intention through concrete situated action itself. Sartre states that "to act is to modify the way the world is *figured*" (Sartre, 2021, 569). The *figure*, in this context, refers to the phenomenological concept of *Gestalt*, as the way phenomenal objects are given qua material being. Consequently, to actually realize an intention to act and thus to modify how the world is figured, an agent must manipulate matter "through the medium of the inert body *which it is* and which it *makes itself*" (Sartre, 1978, 82). By drinking from a water fountain, throwing coins into a vending machine, or turning faucets, agents materially transform their exigent state of the world into a potentially satisfying state. In doing so, agents again exteriorize their formerly interiorized relation to the world as a transient state on the basis of needs and/or desires. Their action "is a totalisation whose movement towards its own end *practically* makes the environment into a totality" (Sartre, 1978, 85). Exteriorizing interiorities by realizing intended ends necessarily transforms the structure of those ends in relation to the material properties and characteristics of the physicochemical environment. To be effective and efficient in their endeavor, agents must thus abide to the laws of matter as "the real, *docile* support of the developing re-organisation" (Sartre, 1978, 159). The thusly modified and transformed state of things represents another positing qua being in matter. Interiorizing it via the effects caused in the exterior world allows agents to again assess whether their realized action has yielded intended or unintended results. This interiorization results in another positing from which another action situation ensues and so on.

Due to this dialectical circularity, the later Sartre identifies individual actions as dialectically totalizing moments of human existence that is itself understood as a self-totalizing *praxis* process in which human beings re-/produce themselves (Sartre, 1978, 558).[8]

According to a complementary conception of Sartre's early and later thoughts on action as totalization, action must be understood as the ontologically free and active negation of a posited state of things as a (world) totality that is perceived as exigent towards a state of the world (as totality) that was previously projected as satisfactory due to the situation-specific structure of needs and/or desires. In realizing an action through material modification, human beings, other material entities, as well as these humans' physicochemical environment, are sublated as acting subjects, instrumental means, and objective world totality. In this dialectical sublation through action, subjects, objects, and means are simultaneously transcended, conserved, and elevated within this transformative engagement between different material situations. This dialectical sublation is carried out in the practical engagement between humans and their physicochemical environment through action and experience, not as a result of an underlying dialectic of nature.

3 Dialectical Instrumentality

In this section, the fundamentals of Sartre's philosophical thoughts on technology are outlined by further examining the dialectics of how and why certain material entities become instrumental means in the course of human action, understood as dialectical totalization.

3.1 Primary Instrumentalization

The fundamental line of thought on which Sartre's philosophical thoughts on technology are grounded is his conception of human action as instrumentalization (French *instrumentalisation*) (Sartre, 1960, 231). From the Sartrean conception of action and from the materialist and dialectical impetus of his philosophy, it follows that every human action represents a goal-directed utilization of matter towards an end. As such, "[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). It is important to note that this instrumentalization does not only refer to nonhuman entities but, most importantly, to the human body, as long as it 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 that are fundamentally reliant on interacting with physicochemical reality to sustain themselves, to

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[8] A more thorough analysis of Sartre's thoughts on existence as *praxis* process can be found in Flynn (2014, 345) and Ally (2017).

communicate, and to socialize. Irrespective of whether *motifs* or *mobiles* motivate human action, the principal intentionality and goal-directedness of human existence mean that every involvement of matter in the course of action that is directed towards an intended end represents an instrumentalization of matter. Through action, human beings make use of their own inertia to modify the material state of other inert bodies. These other inert bodies can be air particles to breathe in and to transmit sound with, water particles to drink, levers to pull, buttons to push, hammers to wield, the ground to walk, etc. Even mental processes like, for instance, thinking take place in the brain as a physical organ, the mental stimuli and nutrient supply of which must be derived from the material world. In this context, Sartre states the following:

> The man of need is an organic totality perpetually making itself into its own tool [French *outil* -MS] 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 [French *outil* -MS](Sartre, 1978, 82)*.

Here, the English term *tool* obscures the wider intension of the original French term *outil*.[9] Whereas the term *tool* rightly connotes a certain passivity and purposiveness when it comes to certain nonhuman implements, such as hammers and knives, or even machines that can be used as means towards ends, *tool* wrongly connotes the same passivity and purposiveness when it comes to the agents' living body, *corps vivant* in French*, as if the body was used by consciousness as a means to an end. Sartre strongly opposes any artificial Cartesian division of mind and body. He states that "[i]t is in its entirety that being-for-itself has to be body, and in its entirety that it has to be consciousness" (Sartre, 2021, 412). For this reason, Sartre's original use of the term *outil* for both the agent's living body in action and for nonhuman things that are used as intermediaries, i.e., means, towards ends, must be interpreted with his conceptions of totalizing action and instrumentalization in mind. In the course of totalizing action, both human agents and nonhuman things are principally instrumentalized towards an end. They 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 differentiation between the modes of being for itself and being in itself, Sartre has different conceptions regarding the way in which human agents and nonhuman things fulfill the functional role as means in the course of human existence. Whereas things are always disclosed as means to ends within an inferential field of equipmentality, human agents exist as the individual center of this field to which practical references refer and from which they equally radiate.

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[9] The original quote reads as follows: "l'homme du besoin est une totalité organique qui se fait perpétuellement son propre outil dans le milieu de l'extériorité… L'action du corps vivant sur l'inerte peut s'exercer directement ou par la médiation d'un autre corps inerte. Dans ce cas nous appelons cet intermédiaire un outil" (Sartre 1960, 167).

3.2 At the Center of the Field of Equipmentality

Due to 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). This means that everything within individual human reality is always disclosed as meaningful according to its practical and situation-specific relevance in dialectical relation to certain ends (French *fin*) for which these things may be instrumentalized as means (French *moyen*). Sartre states this as followed:

> A thing is not first a thing, in order later to be an implement [French *ustensile* -MS]; it is not first an implement, in order later to be disclosed as a thing: it is an implement-thing [French *chose-ustensile* -MS] (Sartre, 2021, 280; Sartre, 1943, 236).

In *Critique of Dialectical Reason*, Sartre refers to these implement things as practical objects (French *objects pratiques*). They include machines, tools and other implements, various built structures, consumer goods, and other objects of utility (Sartre, 1978, 45–46; Sartre, 1960, 138). Similar to Heidegger, Sartre conceives of these implement things and practical objects as *Zeug* which is disclosed as meaningful with respect to a functional context that is in order to or *um-zu*. In Heidegger's philosophy, this functional context forms a *Zeugganzheit* or *equipmental totality*, that is relative to an individual's *In-der-Welt-sein* or *being-in-the-world* (Heidegger, 2005, 232–233; Heidegger, 2006, 71–74). In the case of Sartre, this equipmental totality must be understood regarding his conception of the dialectic of means and ends within totalizing action.

Within practical human existence, "[e]ach implement refers to other implements: to the ones that are its *keys*, and to those of which it is the *key* (Sartre, 2021, 432). A coffee cup, for instance, refers to a table on which it stands, a coffee maker that is used to produce the coffee and a coffee pot that is used to pour it; all in order for the coffee to be enjoyed by an individual human being. 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* (Heidegger, 2006, 68).[10] Implement-things constitute an inferential *field of equipmentality* (French *champ d'ustensilité*) that correlates to an individual's practical field of possibilities (Sartre, 2021, 281, 432; Sartre, 1943, 363). This is due to the fact that the instrumental means available refer to certain attainable ends within the course of totalizing action. A full coffee cup refers to the act of drinking, a hammer next to nails and a picture refer to the act of hanging said picture, etc. Human reality must thus be understood as a *world of tasks* that is objectively articulated, in the sense of being materially mediated by virtue of an individual's field of equipmentality (Sartre, 2021, 433). It was mentioned above that needs and/or desires project to individual ends on the basis of how an individual's practical field of possibilities is

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[10] Despite being closely related to Heidegger's terminology, his earlier thoughts on technology, and most of its implications, Sartre's understanding of *equipmentality* implies a more engaged and proactive conception of human's world relationality than the conceptual roots of his Heideggerian terminology initially convey. This is mostly due to the totalizing character of human action that Sartre advocates for.

equipped. Since the field of possibilities correlates to the field of equipmentality, the totalizing action of said individual must not only be understood as a totalization of itself, the things around it, and its world but also as a totalizing structuring of the field of equipmentality according to practical and situation-specific references towards certain ends (Sartre, 2021, 431). In the very instant the specific yet subjectively structured desire for coffee, for instance, projects towards the goal of drinking said coffee, a vague outline of the course of action to attain said goal is given in relation to the availability of means in the field of equipmentality. When there is fresh coffee in a pot, agents practically structure their field through their actions in such as way as to look for and take a cup for the fresh coffee to pour into. When the coffee pot is empty, however these agents might structure their field so as to brew fresh coffee. In any case, the resulting *structure of equipment* represents the abovementioned *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).

Since agents must materially chain themselves into this organized instrumental structure to be efficacious, Sartre finds himself faced with what he calls a twofold contradictory necessity. On the one hand, the fact that human reality is a materially mediated world of tasks from tool to tool implies that agents must themselves be implements to act. On the other hand, a field of equipmentality that is practically structured according to certain ends can only be disclosed through a meaningful center from which these goal-directed structures of equipment arise. Sartre makes the following assumption about this center:

> [T]his center is at the same time a tool [French *outil* -MS] that is objectively defined by the instrumental field that refers to it, and the tool we are unable to *utilize…* We do not employ this instrument; *we are it…* 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).

Based on this assumption, Sartre's thoughts about the way human beings make themselves tools in the course of action become more clear. In their totalizing world relation, human beings supposedly exist as "an instrument in the midst of other instruments… as *a tool for handling tools…* a tool-machine [French *machine-outil* -MS]" (Sartre, 2021, 430)[11] at the center of a field of equipmentality that is structured according to practical references in relation to certain tasks. Implement things within this field only refer to certain tasks by virtue of the totalizing agent's ends that arise within practical human existence on the basis of needs and/or desires.

From Sartre's thoughts about agents being centers of an individual field of equipmentality, it follows that although implement things can refer to certain actions, they cannot prescribe them. In accordance with the fundamental significance that Sartre attributes to human freedom, the factors that influence how and why certain implement-things are instrumentalized must be found within the course of totalizing action. In this regard, Sartre advocates for a situation-specific instrumentalization of things based on their material properties and characteristics.

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[11] The original passages read as followed: "comme un instrument au milieu d'autres instruments… comme un *outil à manier des outils…* comme une machine-outil" (Sartre 1943, 360).

3.3 Coefficient of Utility and Adversity

The human body and other nonhuman entities have certain material characteristics and properties that render them more useful for some and more adverse for other courses of action. Sartre states the following:

> 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… 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 (Sartre, 2021, 436)

When agents desire for a hot coffee, for instance, a cup has a higher utility than their bare hands due to the material properties and structural qualities of the two. A cup has a handle that protects users from the hot beverage, and it is made of a certain material that keeps the coffee warm. Despite the fact that hands can be formed into a cup, drinking hot coffee in this way potentially hurts and even injures the agents who perform the said action. This very example illustrates the mutual path dependency between the agent's intentions and ends, their needs and desires, and the implement things at their disposal. There are possible scenarios in which it is the agent's intention to show off, for instance, by demonstrating that they can drink hot coffee with their bare hands. Regarding this specific intention, hands are the only suitable choice of means. According to this understanding, implement things are placed within the abovementioned organized, instrumental structure according to what Sartre refers to as their *objective coefficient of utility and adversity* (French *coefficient objectif d'utilité et d'adversité*) (Sartre, 2021, 455; Sartre, 1943, 380). It is situation specific and highly dependent on the interrelation between an agent's individual needs, desires, and ends. For this reason, implement things are not fixed to certain use contexts, and their materiality can be apprehended in multiple ways. Agents can, for instance, use the handle of a knife "to drive in a nail, and this apprehension is no less *objective*" (Sartre, 2021, 587).

From Sartre's thoughts on the dialectics of means and ends, his thoughts about the primarily instrumentalizing character of human action and the instrumental mode of being, as well as his conception of the coefficient of utility and adversity of things, it follows that the equipmentality of things can neither be conceived as solely objective property, nor can individual possibilities for action be conceived as solely subjective structures. The equipmentality of things results from how humans totalize these things in relation to how the material properties, and characteristics of these things enable humans to totalize themselves and their world within action situations on the basis of these agent's needs and/or desires. Consequently, an individual's possibilities for action must not be understood as something these individuals have but as something they enact by practically structuring their field of equipmentality according to the ends their needs and/or desires project towards in relation to the features of physicochemical reality. Equipmentality represents a form of meaning that is attributed to surrounding materiality through the totalizing actions of individuals in somewhat clearly defined and concrete use contexts in the course of their existing as a *praxis* process. Due to the situation-specific instrumentalization of surrounding

materiality based on material properties and characteristics, and due to the principally practical character of human existence, 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 version, reads "d'être-instrument-au-milieu-du-monde" (Sartre, 1943, 365). Human existence thus represents an instrumental mode of being in which surrounding things are principally structured according to "axes whose reference is practical" (French *axes de référence pratiques*) (Sartre, 2021, 431; Sartre, 1943, 361). In this way, the world that is totalized in the course of action has itself an instrumental character to it, as it arises in relation to the intentional means-ends structures of individuals.

4　La Force des Choses

This section examines the societal implications of Sartre's philosophical thoughts on the dialectics of action and technology by combining his conception of material signification with a thing-oriented reconstruction of his concept of the practico-inert to scrutinize his understanding of *la force des choses*.

4.1　Action and Material Signification

In all his works, Sartre is always concerned with the relationship between individuals and society. Analogously to his conception of totalizing action as a mediation of interiority and exteriority, Sartre not only reflects on the equipmentality of things in concrete use contexts from an agent's perspective. He also inverts his perspective and extends it towards the practical implications of the dialectics of action and technology with regard to larger socio-material and cultural contexts, structures, and forms of organization in which human beings find themselves situated and in which the meaning of things was attributed through the actions of others (Bonnemann, 2009, 14).

　　When it comes to the concrete use contexts of equipment, Sartre identifies a fundamental difference between the experience of uncrafted things and the experience of something distinctly artificial. In the act of instrumentalizing an uncrafted object, for instance, a small branch as a pointer or a stone as a hammer, agents are initially referred to themselves as the one's attributing equipmentality to these things, hence enacting a possibility for action (Sartre, 2021, 561). This experience has an individualist, inventive, and spontaneous character to it. However, what might be subjectively true from an internal perspective on the attribution of individual meaning through totalizing action, and what might be even objectively true regarding the instrumentalization of sticks and stones or the repurposing of, for instance, a pencil as a stabbing weapon, seems to be rather false when considering the fact that there are no isolated individuals. All human beings find themselves "committed within a world that is *already meaningful* and which reflects back to [them] meanings that [they] did not put there" (Sartre, 2021, 664). Absolutely, all individual fields of equipmentality at least partly comprise of artifacts that where either created by

others or the common use context of which have been established by others. 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).

In contradistinction to things that only refer to the agents who attribute meaning to them in the course of action, manufactured objects, or artifacts, also refer beyond their concrete use context to the larger social structure in which they were manufactured and from which they derive their meaning and equipmentality. Instead of signifying individual *possibilities* for action, such manufactured objects must be rather understood to signify socially constructed *opportunities* for action. They can thus be understood as material *affordances*, i.e., material cues that solicit agents to interact with in certain ways (Dings, 2018; Rietveld & Kiverstein, 2014). Although there is only a marginal difference between a possibility and an opportunity when it comes to individual action as self-totalization, especially when only considering a specific use context, this difference directly affects the mode of how agents relate to the world. In addition to being an ontologically free and intentional, dialectical relation of means to ends in the course of action, the involvement of a manufactured object for which the rules of use are somewhat predisposed by an abstract societal structure renders individual action an inherently social relation. Involving a manufactured object in the course of action is thus a self-relation inasmuch as it is a relation to others. The fact that an implement thing is an artifact means that it is "already *humanized*, and signifies 'the human kingdom'" (French *règne humain)* (Sartre, 2021, 561; Sartre, 1943, 467).

This abstract societal structure, however, is not only manifested in certain artifacts. In this context, Sartre expands his philosophical thoughts on technology to body techniques to also include the way in which social relations are enacted through the employment of techniques such as language or even specific ways of skiing. According to Sartre, being working class or French, for instance, is not an ontological fact. Rather, it is something individuals reveal by employing the techniques that mark their membership in these collective structures (Sartre, 2021, 667–668), much like it is "the chop of the axe that reveals the axe, the hammering that reveals the hammer," (Sartre, 2021, 674–675) etc.[12] Due to this social structure of meaning, things and techniques as well as the actions of others that reveal them are somewhat elevated from being simple references to tasks to being *indicators of ends* (Sartre, 2021, 677). These human ends, however, are subject independent (Sartre, 2021, 665).

Acting within such an abstract social structure of meaning by implementing certain things as means to ends and by using certain body techniques means to submit oneself to this structure. Such an action not only realizes a certain self. It simultaneously

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[12] For a more in-depth investigation on Sartre's thoughts on body techniques, especially in connection to Marcel Mauss' sociological conception of body techniques, see Crossley (2010).

represents a free self-embedding in and thus a recognition and practical concretization of this abstract social structure. In this way, the social structure is posited as meaningful guidance of individual action on the basis of one's ontological freedom (Sartre, 2021, 668), which is simultaneously negated in the dialectical course of totalizing action. Consequently, these social structures are sublated in the sense mentioned above; they are transcended, conserved, and elevated in the course of human existence.

4.2 Practical Inertia and Societal Organization

In *Critique of Dialectical Reason*, Sartre further develops his conception of the material signification of action and supplements it with a more materialist and historically dialectical foundation in the form of the *practico-inert*. The practico-inert is a rather complex concept in Sartre's philosophy. It brings together certain assumptions about the totalizing character of human action, as well as the equipmentality and materiality of implement things, and situates both in a processual understanding of history. Flynn depicts the practico-inert in a somewhat negative light when he states that it "denotes that realm of worked matter, sedimented praxis, passivity, and counterfinality — matter as the negation of action" (Flynn, 1997, 121). Without disagreeing, it must be added that the practico-inert also enables social stability, the reproducibility of certain effects in the course of action, and, ultimately, the procession of history on the basis of human action within larger forms of organization.

The concept of the *practico-inert* itself refers to a certain way in which the meaning that is created through an agent's active, practical world-relation is reified as a materially inert,[13] passive material factum within physicochemical reality. This factum constantly faces and potentially outlasts individual existence and action. Although Sartre uses the term practico-inert to refer to physical artifacts, language, and deeply ingrained ideas among others (Engels, 2018), this investigation focuses on the practical inertia of physical artifacts such as tools and machines. Sartre states the following:

> A tool is in fact a *praxis* which has been crystallized and inverted by the inertia which sustains it, and this *praxis* addresses itself in the tool to anyone… The *method of using* the machine, as established in the past by its producer, does not in fact designate him any more than it does me; it is only a particular way of being useful, and this constitutes the object itself, whoever uses it (Sartre, 1978, 186).

In this regard, tools and machines must be understood as the exteriorized and practical residuals of the materially transformational actions of others through which practical meaning has become an inert fact. Sartre claims that tools, machines, and other built structures have three distinct characteristics. First, they enable agents to put their own inertia into practice in order to realize themselves

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[13] The terms *inertia* and *inert* (French *inerte*) must be understood to refer to a positive passivity of things that can be understood as stability, durability, and permanence regarding outside forces (Hartmann 1966, 100). The term *plasticity* shares a similar meaning, however, with a weaker connotation on passivity.

in their action situation. Second. they support agents in performing their actions. Third, they are materialized options for action and forms of conduct (Sartre, 1978, 165). With the practical inertia of tools and machines, Sartre adds another layer of complexity to his philosophical thoughts on technology. He claims that implement things not only signify and propose certain ends due to their socially constructed meaning. It is also the raw material inertia of these things that signifies the exteriorized ends of others in the form of their materially inert coefficient of utility and adversity (Sartre, 1978, 161). Especially due to their potentially useful and adverse material characteristics, tools and machines enable the realization of some ends while delimiting the realization of others (Sartre, 1978, 159).

Since the concrete course of action is mediated by the instrumental means employed and since the available means refer to and propose which ends can be attained through them qua their material features and characteristics, the implementation of certain tools and machines represents the realization of ends, the structure of which did not necessarily originate within the practical world relations of these agents themselves. When agents implement such tools and machines, these agents may still realize their own intended ends. However, these agents are coerced to modify their course of action in a specific way that is determined by their means. In this case, agents realize their ends as prescribed by their social context and the practico-inert actions of others. Assuming an ontologically free and informed agent, who can choose which means to employ and who also knows the scope in which these means affect the realization of their individual ends, this type of coercion merely represents a hypothetical coercion (Bonnemann, 2009, 17–18). Such free agents are still the ones who choose their ends and the means to attain them.

However, according to Sartre, individuals not only always find themselves in a world of subject-independent meaning. Rather, individuals also always find themselves practically situated and engaged in larger interdependent forms of organization, such as families, cities, nation states, political parties, factories, and associations, but also structures of race, class, and gender. Within these larger forms of organization, human agents are also provided with more or less predisposed modes of socio-material interaction and with a set of practico-inert means that comprise their field of equipmentality and thus, correlatively, their field of possibilities to realize themselves (Sartre, 1978, 127).[14] Sartre illustrates this with the conditions that individuals face within their class milieu. He states:

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[14] In *Critique of Dialectical Reason*, Sartre refers to these forms of organization as practical ensembles, hence the subtitle *Theory of Practical Ensembles* (French *Théorie des ensembles pratiques*). The social ontology he develops in *Critique of Dialectical Reason* fundamentally rests on his dialectical and materialist understanding of human existence, action, and technology. Since, according to Sartre, human existence takes place within a milieu of scarcity, which invokes both conflict and cooperation between individuals, humans form larger forms of organization with each other and with nonhuman elements to systematically provide for their needs and/or desires. The interactions between the human and nonhuman elements these practical ensembles comprise of can be either predominantly structured in a serial or communal manner, depending on how the human elements are gathered together by virtue of their interactions with nonhuman things and structures. A more thorough examination of the interrelation between Sartre's philosophy of technology and his social ontology can be found in Siegler, forthcoming. For a juxtaposition of Sartre's thoughts on seriality and the practico-inert with Harman's object-oriented ontology, see Kleinherenbrink and Gusman (2018).

[I]ndividuals find an existence already sketched out for them at birth... What is 'assigned' to them is a type of work, and a material condition and a standard of living tied to this activity; it is a fundamental *attitude*, as well as a determinative provision of material and intellectual tools; it is a strictly limited field of possibilities (Sartre, 1978, 232)

Individual freedom of choice of these individuals regarding which means to use to satisfy their needs and/or desires is narrowed down and delimited by their position within a certain form of organization. Depending on the form of organization, individuals simply may not have much choice other than to rely on the practico-inert means that were *assigned* to them. When this is the case, the instrumental means that are provided by the larger form of organization become critical for self-sustenance. These instrumental means thus become these agent's *interest*, i.e., the "being-wholly-outside-oneself-in-a-thing… in so far as its [the agent's -MS] possibilites of survival are given outside itself in its milieu" (Sartre, 1978, 197). Although it is true that individuals concretize and thus reinforce the abstract social structures of meaning in which they are situated in through their actions on the basis of their ontological freedom, they do so with the available means at their disposal. When an individual's field of equipmentality is materially prefabricated by their position within certain forms of organization, the hypothetical coercion to modify their course of action according to the practical inertia of their means becomes a categorical coercion, given that humans necessarily have to act to sustain themselves (Sartre, 1978, 190). Furthermore, humans have to acquiesce to the fact that their course of action is modified by the predisposed means employed.

The conjunction between the fact that individuals necessarily have to rely on and thus realize the same practico-inert means and forms of organization that predispose and modify their options for action and thus their possibilities while realizing themselves is what Sartre tries to grasp with his mentioning of *la force des choses*. This *force* unfolds in the dialectically mediating potential of material things that individuals can not escape from due to their larger societal context. This dialectical entanglement of matter and sociality fundamentally shapes how the originally immediate relation of need, as the *first totalizing relation* between human beings and their physicochemical environment (Sartre, 1978, 80), is mediated by the practico-inert means in concrete use contexts and the forms of organization in which these use contexts are realized. The satisfaction of certain needs is associated with certain means, which renders these needs into mediated desires. Since needs and desires fundamentally shape how individuals totalize and realize themselves, and how they totalize the world as exigent state of things and as practical field of possibilities, it becomes clear that human existence is fundamentally mediated by the instrumental means employed in relation to the larger forms of organization.[15]

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[15]　In this context, Sartre also introduces his understanding of the Aristotelian notion of *hexis*, i.e., a form of habit as an active action disposition in relation the passive action disposition that the practical inertia of tools and machines represents. Sartre claims that *hexis* works as an interiorized and somewhat automatic way of using certain things. The *hexis* of specialized laborers, for instance, allows them to form assemblies with tools and machines that increase efficacy and effectiveness (Sartre 1978. 455). A more thorough analysis of Sartre's conception of *hexis* can be found in Siegler, forthcoming.

4.3 Existence and Technology

Sartre's thoughts about the dialectics of action and technology are rather intriguing, because they reveal a certain understanding of the significance of technology for human existence. According to Sartre, every human being is the ends they have chosen to realize on one side and the means that realizes these ends by instrumentalizing material things on the other (Sartre, 2021, 666). In the larger context of Sartre's thoughts about the relation between the ontologically free and intentional actions of individuals, the implement things and techniques these individuals employ, the world they thus totalize, and the social structure, the practical inertia, and the forms organization they embed themselves in, it can be said that Sartre argues in favor of a principal, dialectical understanding of a technologically mediated existence. In *Being and Nothingness*, he states the following:

> [T]he 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).

Given the fact that individual actions are guided by their larger social structure and the practico-inert, the self that is realized through these actions is a coproduct of these factors. According to Sartre, human existence is an inherently material endeavor that takes its overall direction, shape, and form through the conjunction of how individual actions are mediated in concrete use contexts both by the properties and characteristics of the material things employed as means to ends and by the larger forms of social organization through which these material things are predisposed as means to ends.

5 The Potentials of Sartre's Thoughts on Technology

This section evaluates Sartre's philosophical thoughts on technology, juxtaposes them with related philosophical approaches towards technology, and identifies potential contributions of Sartre's thoughts for contemporary questions in the philosophy of technology.

5.1 A Dialectical Philosophy of Technology

Due to his dialectical conception of technology, Sartre's philosophy can be called a dialectical philosophy of technology. What this means can be explained by juxtaposing it with other dialectical conceptions of technology. Such conceptions can initially be distinguished regarding the different emphasis they put on the works of Hegel and Marx. Lines of thinking that are predominantly situated in a Hegelian tradition of thought build on Hegel's wider understanding of technology. Juchniewicz (2018) outlines three distinct and interrelated characteristics of Hegel's

technological thinking. First, it is distinctly technical in the sense that it reflects on the instrumental character of human action. Second, it is rooted in the Greek conception of τέχνη and thus extends towards the instrumental and beyond the realm of knowledge. Third, it is understood in terms of revealing a *Werk* (English *work of art)* through the process of labor. Hubig (2006) builds on Hegel's thoughts on technology to reveal general modes of thinking about technology, in the German sense of *Technik*. According to Hubig, *Technik* must neither be conceived as a specific field of possibilities, a distinct set of technological means, or as the *Inbegriff der Mittel* (English *embodiment of means*), understood as a predominantly instrumental conception of technology, nor as a somewhat general medium that enables human action. Rather, *Technik* must be understood as a mode of structuring of concrete, intellectual, and social spaces of possibility. Hubig's thinking about technology is thus a dialectical reflection alongside the modal dimensions of the human condition. Grunwald (2018) builds on Hubig's thoughts and applies them for an understanding of technology as opening, transforming, and even potentially closing spaces of possibility for human action.

Lines of thinking that are predominantly situated in a Marxist tradition tend to reflect on and criticize the historical dimensions of technological structures and systems by scrutinizing the dynamics, potentials, practical necessities, and constraints within human society as a result of a modern division of labor. Such lines of thinking also include questions of alienation and the technological rationale. Since Marx's *Maschinenfragment* in *Grundrisse der Kritik der politischen Ökonomie* from 1857/1858 (Marx, 1983) and his *Ökonomisch-philosophische Manuskripte*, which were later published in 1932 (Marx, 2009), this line of thought has prompted many successors that reflect on the individual and societal conditions in relation to technological systems and rationales, such as Horkheimer and Adorno's *Dialektik der Aufklärung* from 1944 (Horkheimer & Adorno, 2012) and Marcuse's *One-dimensional Man* from 1964 (Marcuse, 1966). A modern proponent of this line of thought can also be found in Feenberg's *Transforming Technology: A Critical Theory Revisited* (Feenberg, 2002) and his collection *Technosystem: The Social Life of Reason* (Feenberg, 2017).

Whereas the predominantly Marx-oriented tradition of thought applies a dialectical thinking to scrutinize the relation between society and technology, the Hegel-oriented thought tradition dialectically reflects on the conditions of possibility regarding which certain phenomena can be understood as technological and uses it as a basis for further analysis. Both of these dialectical traditions, however, seek to do justice to the potentials and contingencies of between human action and technology, both in the form of technological artifacts, processes, and rationales. In his critical reconsideration of dialectical philosophy of technology, Cressman (2020) states this as follows:

A dialectical philosophy of technology… points to one of our most immediate, and philosophically overlooked, forms of engagement with technology – everyday experiences in which users imagine concrete potentials that contradict, or negate, prescribed designs and functions. There are no appeals to transcendent ideals or evidence of organized resistance to power independent of particu-

lar cases, just engaged use with technologies that reveal unimagined potentials. (Introduction)

With his underlying conception of totalizing action and dialectical instrumentality, as well as his thoughts about *la force des choses*, Sartre advocates for a specific understanding of how the dialectical interrelation between human existence and physicochemical reality engenders its own possibilities and practical constraints. His understanding of technology is not specifically *about* technology in the sense of technological artifacts, structures, or systems but about the principally instrumental mode of being of the human condition. Nevertheless, Sartre also uses the implications of his thoughts on technology surrounding his conception of *la force des choses* to criticize how the forms of societal organization predispose the basic existential conditions of individuals throughout individual and collective history. In this regard, Sartre's philosophy can be regarded as a dialectical philosophy of technology that is positioned between Hegel and Marx.[16]

5.2 Technological Mediation and Material Agency à la Sartre

With Sartre's dialectical and action-oriented understanding of the relation between individuals and their physicochemical surroundings, contemporary debates in the philosophy of technology and STS that reflect on and discuss technological mediation, the dynamics of hybrid action, and material as well as technological agency can be realigned according to a more agent-focused understanding.

It was mentioned that Sartre principally argues for a dialectical understanding of human existence as technologically mediated. With this dialectical understanding, Sartre is not initially situated in a tradition of thought that considers human action to be mediated by tools, implements, and other practical objects, which are broadly referred to as *technology*, such as is the case, for instance, in postphenomenology and, to some extent, ANT. According to such an understanding, human beings are related "via technology to the world" (Verbeek, 2005, 126). They perceive their world through glasses and hearing aids, communicate through smart phones and the Internet, resist adverse environmental conditions with clothes and other forms of protection, and traverse with cars, buses, and trams. However, according to Verbeek (2005), the fact that their subjective relation to their objective world "always already precedes the subject and the object themselves… implies that the subject and the object are mutually constituted in their interrelation… both are brought into existence in a specific way, and both subjectivity and objectivity acquire specific shape" (130) through the technology between them. Latour has a much more nuanced understanding of technological mediation as *translation* (Latour, 1994).[17] According to Latour, what it takes for an action to be realized can not fully be understood in terms of the intention of a human agent alone. Rather, it must be understood in terms of the program of action of an agential network which is understood as a hybrid actor that comprises

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[16] For a more thorough examination of Sartre's works in relation to Hegel and Marx, see Hartmann (1966), Sze (2009), Remley (2012), and Collamati (2016).

[17] Latour (1994) mentions four meanings of mediation: translation, composition, reversible blackboxing, and delegation.

of humans as intentional fragments and technology as technical fragments among other fragments. Translation takes place, when the coming together of intentional and technical fragment within a plan of action renders the intentional fragment, as an acting subject, into a different subject as they were without this connection or with a connection to a different technical fragment (Hubig, 2015, 89). Within an agential network consisting of a driver, a sports car, and a highway, the driver is translated into a different subject as they were in a network consisting of a driver, a city car, and a highway or a driver, a sports car, and a crowded city. Postphenomenology and ANT conceive technological mediation from a perspective that decentralizes human subjectivity and the human agent to better describe what is going on in human-technology relations. However, both thus lapse into a technomorphic conception of how subjectivity is constituted within and through these relations.

Sartre's understanding of a technologically mediated existence initially lends itself to the approaches above. Human beings are the ends they realize through their actions. Since these ends and the practical course to realize them are mediated by the material properties and characteristics of the means employed, and since agents can not always chose the means at their disposal, their realized self is thus a product of how their intentionality is shaped through their material surroundings. However, due to the dialectical impetus of Sartre's understanding, there is a nuanced yet crucial difference between his conception of a technologically mediated existence and that of postphenomenology/ANT. According to Sartre's dialectical understanding, the human mode of being can be conceived as *technical* itself in the sense that the way in which it extends towards its physicochemical surroundings through action is, on principal, *instrumentalizing* and, thus, in its practical processing, shaped by the material properties and characteristics of things that arise as means in the course of being instrumentalized to thusly attainable ends. Sartre conceives technological mediation from an anthropocentric perspective that is rooted in the structural moments of human action as dialectical instrumentalization, not in a relation to a set of phenomena which are referred to as technological. In this way, Sartre escapes the technomorphic conception of subjectivity that can be found in postphenomenology/ANT. By considering human existence as a primarily instrumentalizing endevor, it is human subjectivity and intentionality that constitutes what is technology, not the other way around.

The same anthropocentric thinking applies to questions surrounding the agency of matter and technology. Here, Sartre must be understood not only as a strong proponent of the primacy of human agency but also as an opponent of material or technological agency. Although Sartre claims that the materiality of implement things co-constitutes the course of totalizing action qua materiality, he denies these things an agency that exists prior to a form of human subjectivity that engages with these things. However, due to Sartre's assumptions that agents chain themselves into an organized instrumental structure by virtue of their living body to be efficacious in their actions, it can be assumed that Sartre would agree with a conception of *agencies* as proposed by Material Engagement Theory. According to this conception, agency "is not a permanent feature or property that someone (human or non human) has independently of situated action but the emergent product of material engagement… as a creative tension of form and flow" (Malafouris, 2019, 11). For Sartre, human existence takes place as a *praxis* process from situated action to situated action in relation to physicochemical reality. Depending on the scope of perspective that is applied to these situated actions, perceiving a single

action, such as kneading dough, can be either conceived as a single situated action or as a succession of hundreds of situated actions, the course of which is enacted in the material engagement between hands and dough. However, since Sartre's conception of technological mediation and material agency is phenomenological in its core, it can still be used for describing what happens in the concrete use contexts of technologies from a dialectically informed phenomenological perspective on human-technology interactions.

5.3 Human Agency in a Sociotechnical Milieu

Due the underlying tension of ontological freedom and practical necessity that Sartre captures with *la force des choses*, his dialectical philosophy of technology lends itself better for critically deconstructing and analyzing how the sociotechnical surroundings shape the actions of agents. The mutually mediating conjunction of totalizing human action, material things, and social structures that Sartre assumes to manifest *la force des choses* can be captured by reflecting on his use of the term *milieu*, especially in connection to the term *environment* (French *environnement*). According to Petit and Gillaume (2018), the term *milieu* says:

> both more and less than the term 'environment.' It says more, because it is not on the outside, but *between* the inside and the outside. It says less, because it refers to the unique experience of a living organism in a place, whereas the 'environment' is identical for all beings which find themselves in a place and stays outside the living beings. (88)

In his attempt to capture *la force des choses*, Sartre repeatedly uses the terms *milieu* and *environment* somewhat interchangeably and in various pairs of terms, such as *material* and *social environment*, *material*, *social*, and *class milieu*, to broadly refer to the physicochemical and social processes, conditions, and surroundings in which the actions of individuals take place. In this regard, Sartre advocates for a principally materialist understanding of human existence and society on the basis of the material interactions between individuals and between these individuals and material things (Sartre, 1978, 178–181). He claims that "social facts are things in so far as *all things* are, directly or indirectly, social facts" (Sartre, 1978, 179), which means that there is no social relation without a material basis. According to Sartre,

> 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).

It was mentioned above that human existence is technologically mediated not only on the level of totalizing action through the available practico-inert means employed but also on the fundamental level of needs and desires. As *interest*, i.e., the *being-wholly-outside-oneself-in-a-thing*, practico-inert means materially couple individuals to their physicochemical surroundings. Consequently, the physicochemical surroundings of individuals not merely represent a neutral

material and somewhat socially structured inventory but a sociotechnical milieu that predisposes these agents' conditions of possibility for self-realization. Since the fundamental structures of need are potentially mediated through the means provided by the sociotechnical milieu and thus become mediated desires, individuals are not only coupled to this milieu; they are also adapted to it alongside the fundamental structures of their concrete existence.

Although Sartre's understanding of how agents are coupled with their milieu in a fundamental way through practical objects resembles contemporary thoughts about cyborg relations, especially in terms of a cyborg intentionality (Verbeek, 2008), Sartre's understanding is transcended towards a political ecology, due to his aforementioned advocacy of the primacy of human agency. For Sartre, as already mentioned, "being, in its case, is acting, and to cease to act is to cease to be" (Sartre, 2021, 623). This means that the structures of an individual's sociotechnical milieu are themselves products of human action. As such, these structures and *la force des choses* that ensued from them can be scrutinized—not, however, according to a supposed technological agency or a system dynamic that renders individuals powerless and determines their actions but according to the sociopolitical and cultural conditions, potentials, and decisions that drive the processing of society by employing the practical inertia of things.

6 Conclusion

This investigation has provided an in-depth analysis of Sartre's dialectical thoughts on the interrelation of action and technology, as well as an exploration of Sartre's hidden potentials for the philosophy of technology. The relation between action and technology plays a central role in the self-realization of individuals as well as in their relation to the forms of societal organization these individuals are situated in. Sartre was shown to be a dialectical philosopher of technology that reflects and scrutinizes the potentialities and practical constraints of tools and machines in the formation and transformation of human reality. His theoretical thoughts allow to critically deconstruct societal systems and forms of organization on the basis of their fundamental constitutive power: human action. According to Sartre, it is not the material things and structures that govern the way of the world. Rather, it is human action, mediated by and manifested in the practical inertia of these things and structures, that determines the way of the world. In his paper, *Posthuman Horizons: Contemporary Responses to Sartre's philosophy*, Farrell Fox (2020) reflects on the old and the new Sartre, both the same person, the same material entity, but everchanging in relation to the sociotechnical milieu in which he wrote and is still read up to this day. Compared to contemporary approaches in the philosophy of technology, Sartre's thoughts on technology initially seem like a voice from a long gone, analog modernity. However, due to the emphasis he puts on change, dynamic, and transformation, both in terms of the self, of matter, and of societal organization, Sartre always also escapes all too straight an approach towards his philosophy. In this regard, he almost appears to be a postmodernist philosopher. His philosophy, especially his dialectical thoughts about technology, not only reminds us of the complexity of human reality and society.

It also makes us cautious about what we attribute power and agency to and which conjunctions we readily dismiss as too complex to pursue. In this regard, Sartre remains an inherently existentialist thinker that advocates, above all, the ontological freedom of human beings. Although human reality is a coproduct of practical freedom and material necessity, it is still a product—an artifact that was made through the exteriorization of human freedom. As such, it is contingent. It does not have to be the way it is. But, as Sartre also mentions, since the connection to our sociotechnical milieu is material, words alone will not suffice to change the way of the world, "[o]nly matter itself, beating on matter, can break them up" (Sartre, 1978, 178).

Declarations

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