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Article

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AN ANALYSIS OF THE ONTOLOGY OF TECHNOLOGICAL ARTEFACTS IN ERNST KAPP'S THEORY OF ORGAN PROJECTION

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Abstract

This study investigates the ontology of technological artefacts adopting Ernst Kapp's theory of Organ Projection. In this theory, Kapp proposes that technological artefacts are not merely utilitarian tools but meaningful extensions of human faculties that play a constitutive role in human self-understanding. However, this projectionist framework, while historically significant, offers an anthropologically rich yet ultimately limited account of artefact ontology. Thus, drawing a critical-analytic methodology, this paper interrogates Kapp's perspective that artefacts are externalizations of human organs and mental faculties; mirroring the human subject in material form. It also evaluates Kapp's ontological position by juxtaposing his Organ Projection theory with alternative philosophical models, including Martin Heidegger's concept of *readiness-to-hand*, Gilbert Simondon's theory of individuation, and post-phenomenological accounts of technological mediation. Through this comparative engagement, the paper critiques Kapp's biological reductionism, his inattention to socio-technical dynamics, and his neglect of the emergent and multi-stable nature of contemporary technologies. The paper concludes that while Kapp successfully initiates a framework in which technology is essential to human self-reflection and development, his ontology remains too anthropocentric and static. Consequently, the paper takes a moderate position; it recommends a more comprehensive ontological model that views artefacts not only as projections but also as autonomous and context-sensitive entities capable of shaping human behavior, perception, and social structure. By reassessing Kapp's contribution within a broader philosophical discourse, this paper not only updates his insights in the genealogy

of philosophy of technology but also advances a more robust, dynamic and relational understanding of technological artefacts in the digital and post-industrial age.

Introduction

The intersection between philosophy and technology has emerged as a crucial space for interrogating how human beings relate to the tools and artefacts they create. At the core of this inquiry lies the question of the ontology of technological artefacts. Hence, one queries into what technological artefacts are in themselves and how they exist in relation to human nature. While modern technology studies often focus on the functionality, social impact, or ethical implications of artefacts, there remains a profound philosophical need to understand their ontological foundations. Ernst Kapp, a 19th-century German philosopher and a pioneer in the philosophy of technology, offers an essential but underexplored framework for this understanding. His notion of Organ Projection posits that all technological artefacts are externalized extensions of human organs, functions, or faculties. This bold thesis establishes a deeply anthropological view of technology that precedes and anticipates much of 20th-century thought. Kapp's *Elements of a Philosophy of Technology*, published in 1877, is one of the earliest systematic philosophical engagements with technology. He argued that technologies such as tools, machines, and communication devices are not merely instruments serving external purposes but are ontologically tied to human embodiment and cognition. For instance, the hammer is not just a striking tool but a projection of the human fist; the ship is an extension of the human body's ability to navigate. As Kapp himself writes, "technology is the organ projection of man" (Kapp 50), a formulation that places artefacts within the structure of human corporeality and cognitive life. This theory of organ projection situates technological artefacts within the very structure of human being, thus challenging the long-held Cartesian dualism between subject and object, nature and culture, self and world.

The originality of Kapp's insights has not received sustained attention in contemporary discussions of the philosophy of technology. Modern theorists such as Martin Heidegger, Gilbert Simondon, Don Ihde, and Bruno Latour have dominated the field, often without reference to Kapp's early contributions. As Andrew Feenberg notes, "Kapp's theory of Organ Projection is an overlooked treasure in the history of technology studies" (Feenberg 17). This paper seeks to fill that lacuna by offering a comprehensive ontological analysis of technological artefacts through the perspective of Kapp's philosophy. It asks: What does it mean for an artefact to be a projection of the human body or mind? What ontological status do these projections acquire? Can Kapp's framework help us make sense of contemporary technological artefacts such as artificial intelligence, virtual reality, and bioengineering? The central aim of this paper is to analyze and critically evaluate the ontology of technological artefacts in Ernst Kapp's philosophical thought, focusing on how his Organ Projection theory reveals the deep interconnection between humans and their technologies. This inquiry is not merely historical but seeks to apply Kapp's insights to contemporary contexts, thereby bridging early philosophical thought with present-day technological realities. The significance of this research lies in its potential to provide a more coherent and human-centered understanding of technology—one that moves beyond utilitarian or instrumentalist perspectives to grasp the ontological implications of our technological existence.

Kapp's Theory of Organ Projection

Ernst Kapp's theory of Organ Projection is the foundation stone of his philosophy of technology, articulated most prominently in his 1877 seminal work titled, *Elements of a*

Philosophy of Technology. This principle asserts that technological artefacts are not merely external or accidental additions to human existence but are, rather, projections or externalizations of human organs and mental faculties. Through this anthropological lens, Kapp provides one of the earliest systematic attempts to define the *essence* of technological artefacts. His insight foreshadows major developments in the philosophy of technology while offering a unique, physically grounded ontology. The principle of organ projection holds that all tools, machines, and technical systems originate as extensions of the human body. In Kapp analysis, “all technical constructions can be interpreted as projections of human organs” (50). This notion reconfigures the relationship between humans and their artefacts by framing tools not merely as inert instruments of utility, but as living expressions of human embodiment. For example, a hammer is not merely a device to strike nails but a material amplification of the human fist; similarly, a telescope is a projection of the eye, extending the capacity for visual perception. Thus, artefacts are ontologically continuous with the human body, that is, they are materializations of bodily possibilities.

Kapp’s organ projection thesis is grounded in a broader anthropological and idealist framework influenced by German Idealism, particularly Hegel. However, his contribution is original in that it places the human body, not abstract reason or spirit as seen in Hegel, at the center of technological genesis. According to Kapp, projection is not a metaphor; it is a literal, observable process by which internal capacities are exteriorized into the world. He states that this projection is “not arbitrary but necessary and lawful, governed by the inner constitution of man” (53). This necessity gives artefacts their ontological status: they are not separate from the self but manifestations of its structure and logic. This theory introduces a novel understanding of artefact creation. Rather than being defined primarily by their utility or mechanical function, technologies are meaningful because they mirror human faculties. In Kapp’s words, “Technology becomes an expressive organ, akin to language, through which humanity comes to know itself” (58). In this sense, Kapp’s projection is both ontological and epistemological: artefacts are part of human being and, simultaneously, media for self-understanding. Through creating and using artefacts, humanity reflects upon and refines its own nature. Andrew Feenberg recognizes the originality and foresight of Kapp’s organ projection theory in his reflections on early philosophies of technology. Feenberg observes, “Kapp’s organ projection is not merely a functional metaphor; it is a deep ontological insight into the continuity between human embodiment and the technical object” (17). Feenberg further notes that Kapp’s theory escapes both the technological determinism and the naive instrumentalism that plagued later 20th-century thought. By positing that technological artefacts are internal to the structure of human being, Kapp prefigures phenomenological and post-phenomenological approaches that treat tools as mediating the subject-world relation. Similarly, Don Ihde argues that “Technologies are not merely means to ends; they transform the conditions under which humans experience and engage the world” (29). This sentiment resonates deeply with Kapp’s idea that technological artefacts, as organ projections, restructure human orientation. The telescope, for instance, does not just increase sight but redefines what it means to *see*, thereby shifting the boundaries of perceptual experience.

One of the clearest implications of Kapp’s organ projection is his denial of ontological autonomy of technological artefacts. He claims that artefacts are not ontologically autonomous entities; they are derivative yet indispensable extensions of human being. This is neither to deny artefacts their reality nor to suggest they are mere shadows of human form. Rather, artefacts are co-constitutive, hence, they emerge from human faculties and, in

turn, help define and refine those faculties. As Kapp explain further, “the artefact is at once a result of man’s powers and a condition for their fuller realization” (Kapp 61). This dialectical relationship ensures that projection is not a one-time event but a continuous process of mutual shaping. Scholars have also noted the radical implications of Kapp’s projection principle for contemporary technological society. For instance, Bernhard Irrgang comments that, “Kapp’s philosophy shows us that technology must be understood from the inside out – that it is not something we simply use, but something we already are” (94). This interpretation highlights the foundational nature of organ projection in understanding modernity, where technological artefacts have become inseparable from identity, labour, and sociality. It is crucial, however, to emphasize that Kapp’s principle is not meant to reduce artefacts to human anatomy. Rather, organ projection reflects a symbolic and functional relation: artefacts preserve the form of human capacities while exceeding their biological limits. The wheel, for instance, is not a literal leg, but it is a projection of the leg’s locomotion. Through such projections, human beings transcend their natural limitations and create new realms of action and perception. In Kapp’s vision, this is not a mark of alienation but a testament to human creativity. To corroborate this, “the human being is not diminished by technology,” Kapp argues, “but multiplied in space, power, and thought” (64). This projection is both a generative and reflective process: it gives rise to tools and systems while also offering a mirror for human self-understanding. Artefacts, in this framework, are not external to human life but fundamentally *of* it. They are born from the structure of the human organism and, in return, help articulate that very structure. Kapp’s principle thus lays a philosophical foundation for viewing technology not merely as utility but as ontology, that is, a living continuation of the human self into the world.

Technology and Human Nature

Rather than conceiving of technology as an external tool that humans happen to use, Kapp argue that technology is constitutive of human existence. From this view, to be human is already to be technological. This perspective radically reorients our understanding of both artefacts and human beings, suggesting that technology is not simply a product of human action but a revealing of human nature itself. Kapp establishes that all technological artefacts are externalizations of human organs and mental faculties. Thus, technological artefacts arise not as chance inventions, but as material manifestations of the human body and mind. This projection is not symbolic but factual in its philosophical implication, thus, artefacts are ontologically continuous with human nature. They are not independent objects imposed upon the world but are manifestations of our embodied capacities. Kapp further elaborates, that “the entire history of technology is a history of self-knowledge, for in projecting his organs into the world, man learns to understand himself” (58). This understanding finds strong resonance in contemporary thought. Peter-Paul Verbeek asserts that “technology and human existence are fundamentally intertwined,” adding that “humans shape technologies, and technologies shape humans in return” (12). Verbeek’s insight captures the reciprocity at the heart of the human-technology relation. While humans may initiate technological projection, the resulting artefacts, once integrated into daily life, feed back into human behaviour, perception, and identity. For example, the development of writing restructured memory and cognition, and the use of digital devices (like cell phones) today alters attention spans, communication styles, and even emotional expression.

Furthermore, Kapp's vision challenges traditional dualisms that separate humans from their tools. In classical philosophy, tools were typically viewed as neutral instruments; external to the self, defined only by their utility. Kapp overturns this by insisting that technological artefacts arise from and reveal the internal structure of the human being. As Andrew Feenberg notes, "The technical object is not simply a means to an end but a crystallization of human capacities, desires, and social relations" (23). Technology, in this sense, is not optional or alien, it is essential to human flourishing and self-realization. Martin Heidegger also offers a significant contribution to this discourse, although with a different emphasis. In his essay *The Question Concerning Technology*, Heidegger writes, "the essence of technology is by no means anything technological" (4). Rather than focusing on function or projection, Heidegger views technology as a mode of revealing which for him refers to a way in which the world is disclosed to human understanding. He argues that modern technology enframes the world, ordering it as a standing reserve to be used. However, even in this critique, Heidegger implies that technology is integral to how humans relate to Being—it is not peripheral, but ontologically grounded in human existence. Similarly, Don Ihde emphasizes that technologies mediate the relationship between humans and the world. He writes, "technologies are non-neutral; they are transformational in the ways humans and the world are experienced" (Ihde 45). This idea echoes Kapp's insight that the use of technology is not a simple interaction with an object, but a reconfiguration of perception, agency, and environment. For example, eyeglasses change not only what we see but how we inhabit space. Smartphones alter our sense of presence, memory, and even identity.

From this perspective, human nature cannot be fully understood apart from the technological artefacts through which it is realized. Technologies do not simply serve needs, they create new forms of human activity, new desires, and even new conceptions of the self. In this context Bernhard Irrgang observes, "technology must be understood from the inside out—that it is not something we simply use, but something we already are" (Irrgang 94). This insight underlines a core truth of Kapp's Organ Projection thesis that the boundaries between the human and the technical are not fixed but porous, ever-evolving through the dialectic of projection and reflection. Consequently, one can say that technology is not accidental to human nature; it is constitutive of it. Human beings are not simply tool users; they are, in a profound sense, technological beings. Therefore, in Kapp's perspective, understanding technology is inseparable from understanding ourselves. It requires more than analysis of mechanical efficiency or social impact; it demands ontological reflection. In the final analysis, human nature and technology are co-constitutive: each finds its meaning, form, and evolution in relation to the other. As man continues to project himself into an increasingly digital and artificial world, the question of what it means to be human must remain deeply entangled with the question of what it means to create and inhabit a technological reality.

Artefacts: Extension or Independent Entities

The ontological status of technological artefacts remains a central and contested issue in the philosophy of technology. Are artefacts mere human extensions (tools designed to amplify biological or cognitive capacities) or do they attain a degree of independence once externalized into the world? This question strikes at the heart of how one should understand agency, responsibility, and human-technology interaction. While Ernst Kapp treats artefacts as organ-extensions rooted in human embodiment, contemporary thinkers challenge the sufficiency of this framework by emphasizing the emergent autonomy, mediating function,

and social embeddedness of technological objects. Kapp's thesis of Organ Projection, as explored above, sets the foundation for thinking of artefacts as anthropological expressions. According to him, all artefacts are rooted in a bodily analogy, that is, they are projections of human organs, such that "each technical form is grounded in an organic form" (Kapp 49). The artefact is, therefore, ontologically subordinate to the human, deriving its meaning and purpose from the human structure it replicates or extends. This view places human intentionality at the center of technological genesis and function. However, critics argue that such a reductionist view fails to account for the complexity of contemporary technological systems. The assumption that artefacts remain passive tools under human control no longer holds in an era of autonomous systems, artificial intelligence, and complex socio-technical networks. Shannon Vallor directly challenged this assumption when she writes, "technological artefacts develop trajectories of use and impact that cannot be wholly anticipated or controlled by their designers" (64). Her observation introduces a key shift in perspective; that artefacts, though born of human intention, can exceed that intention through dynamic interactions with users, environments, and other artefacts.

Indeed, modern technologies often enter contexts that imbue them with meanings and functions far beyond their original design. Pieter Vermaas and Anthonie Meijers captured this duality in asserting that "artefacts possess a dual nature: they are both physical objects and carriers of functions embedded in socio-technical systems" (101). This insight stresses that artefacts are never isolated material entities; they are enmeshed within relational networks including economic, political and ethical networks that endow them with varying roles and effects. A smartphone, for instance, may begin as a communicative device but soon becomes a surveillance node, a tool of labour exploitation, or a medium of political dissent. In each case, the artefact evolves in significance based on its systemic insertion, not merely its physical or functional properties. This complexity challenges the traditional view that artefacts are ontologically secondary. Instead, recent philosophies of technology emphasize the partial autonomy of artefacts by emphasizing their ability to influence, constrain, and redirect human action. Don Ihde's theory of Multi-stability is central here. He contends that "technologies are non-neutral; they transform experience" and can be appropriated for different uses depending on the user and context (*Postphenomenology and Technoscience*, 36). This instability of meaning undermines any static view of artefacts as mere tools. Instead, artefacts emerge as dynamic mediators that co-constitute human-world relations. Their function is not fixed at the point of design but evolves as they circulate through diverse interpretive frameworks and user communities. Moreover, the emergence of intelligent and adaptive systems raises ontological concerns that Organ Projection alone cannot resolve. As Susan Schneider noted in *Artificial You*, "AI systems can operate with levels of complexity and adaptiveness that render their behaviour opaque even to their creators" (72). This phenomenon signals a break from earlier technological models where the artefact's behaviour could be reliably predicted and its agency fully traced back to human input. With machine learning and self-modifying code, artefacts no longer simply project human intention, they develop patterned responses and evolve based on algorithmic logic and environmental feedback.

Kapp's Technological Artefacts and Human Self-Understanding

As already established, Kapp's position on technological artefacts remains profound. Artefacts are not only products of human faculties but also reflective surfaces through which humans gain insight into themselves. Far beyond utility or function, technological objects in

Kapp's framework play a hermeneutical role. They mirror, disclose, and even deepen human self-awareness. Kapp contends that technological artefacts are externalizations of human bodily and cognitive structures. However, this is not simply a material or mechanical claim; it is fundamentally epistemic. Kapp writes, "it is through these projections that man begins to see himself, as though reflected back from the things he has made" (Kapp 61). Artefacts, in this light, function as mirrors. Just as language enables introspection through externalized thought, so do tools and machines disclose human structure, intention, and limitations. This feedback loop between artefact creation and self-awareness places Kapp's thought in alignment with later hermeneutic traditions. His position implies that by studying the material artefacts a culture produces – its tools, infrastructures, and machines – one can decode the implicit self-conceptions and existential orientations of that culture. Hans Achterhuis relates that, "Kapp's originality lies in his claim that technology is not just something we use but something through which we learn who we are" (143). This makes Kapp a precursor to what would later be recognized as the cultural and philosophical turn in technology studies. Kapp's insights emerge with particular clarity when he addresses the telegraph system, which he interprets as a technical analogue of the human nervous system. He argues that "the transmission of messages across distances in the telegraph mirrors the structure of communication within the body itself" (87). Here, the artefact not only extends a bodily function but also offers a clearer understanding of that function. The telegraph becomes a material model that elucidates the distributed nature of human perception and cognition. Thus, the artefact becomes not just a tool but a informative structure providing a concrete means of conceptualizing the abstract.

Contemporary scholars continue to draw out this interpretive dimension of Kapp's theory. Michael Friedewald, in his historical analysis, observes, "Kapp's theory suggests that technological artefacts are not neutral but are laden with anthropological significance, they are repositories of human self-knowledge in material form" (97). This anthropological layer complicates the idea of technology as value-free or strictly instrumental. Tools are crystallizations of the human condition, material answers to existential questions, and external forms of inward states. Furthermore, this account of technology as self-reflective provides a unique perspective on the continuity between the organic and the artificial. Little wonder that Bernhard Irrgang argued that, "In Kapp's conception, the boundary between the natural and the artificial becomes blurred; artefacts belong to the human as organically as limbs and language" (102). Artefacts are not alien impositions upon a pure human essence; they are constitutive elements of human existence. To study technology, then, is not to investigate a secondary domain of applied science but to engage directly with the unfolding of human subjectivity in material form. Kapp's conception of self-understanding through artefacts resonates with modern philosophical attempts to ground identity in practice. Philosopher David Kaplan, though writing in a very different context, indirectly affirms Kapp's insight when he writes, "what we build reflects what we value, fear, and hope for – and what we overlook" (34). Technological artefacts serve as unintended confessionals; they speak truths about their makers that even those makers may not fully grasp. A surveillance camera, for instance, not only performs a security function but also reflects an ethos of distrust, control, and visibility.

In this way, the artefact reveals psychological and political dimensions that extend beyond its function. Additionally, Kapp's approach anticipates phenomenological and postphenomenological traditions that see technology as mediating human-world relations. Unlike Heidegger, who saw modern technology as a danger to authentic being, Kapp views

artefacts as pedagogical—teaching humans about their capacities and their place in nature. Jan Kyrre Berg Olsen observes that, “Kapp does not problematize the artefact-world relation as alienating but treats it as revelatory. It is through our externalized organs that the internal becomes known” (62). This underscores Kapp’s optimism about technology as a vehicle for epistemic expansion. This optimistic vision makes Kapp’s theory particularly valuable in contemporary debates about digital technology and artificial intelligence. In a world increasingly shaped by non-biological systems of cognition, the question of what it means to be human is once again tied to technological artefacts. Kapp offers a framework for approaching this not with fear but with philosophical curiosity. As the boundaries between human and machine blur, Kapp reminds implies that it is precisely in these artefacts that man encounters himself anew. Artefacts, in Kapp’s view, are not merely utilitarian projections but epistemic mirrors – material forms that reflect, clarify, and extend human self-conception. His theory challenges reductive accounts of technology and affirms the artefact’s role in human development not only physically but spiritually and intellectually. In doing so, Kapp lays the groundwork for a philosophy of technology that is not about control or efficiency, but about self-discovery.

Juxtaposing Kapp’s Organ Projection and Heidegger’s Ready-to-Hand

The philosophical traditions of Ernst Kapp and Martin Heidegger present two foundational approaches to understanding the ontology of technological artefacts. Kapp’s Organ Projection and Heidegger’s concept of the “ready-to-hand”, each offer rich but distinct frameworks for thinking about the relationship between human beings and their tools. While both thinkers reject simplistic, instrumentalist views of technology, their philosophies differ in motivation, methodology, and outcome. Kapp views technology as a mirror of human faculties, a vehicle for self-understanding. Heidegger, in contrast, situates technological artefacts within a broader existential analytic, emphasizing their embeddedness in practice and their role in disclosing the world. While Kapp treats artefacts as “projections of bodily organs,” arguing that technologies “externalize” human faculties into material form (56), Heidegger’s account or “ready-to-hand” demonstrate a slightly different ontological relationship between man and technology. Martin Heidegger’s account of the ready-to-hand (*zuhanden*) in *Being and Time* (1927) departs from a representational or anatomical model. Heidegger rejects the notion that tools are primarily understood through abstraction or projection. Instead, tools become intelligible through use; in practical engagement, not theoretical observation. He writes, “the less we just stare at the hammer-thing, and the more we use it, the more primordial our relationship to it becomes” (Heidegger 98). In other words, the meaning of a hammer is not revealed by analyzing it or by identifying it as an extension of the hand, but by hammering – by performing the activity for which it is meant. For Heidegger, this practical involvement discloses the world not as a collection of objects, but as a meaningful network of relations.

This leads to a striking divergence in their approaches. Kapp offers a biological metaphor for understanding technology, locating its essence in a mimetic relationship to the human body. In doing so, he ties technological meaning to the anatomical and psychological structure of the individual. Heidegger, on the other hand, proposes a phenomenological model in which meaning arises from being-in-the-world. The artefact’s significance is not derived from human anatomy but from its role within a referential whole, a context of equipment and activity. As Heidegger notes, “Equipment is essentially ‘something in-order-to’” (97), highlighting that an artefact is understood through its purposeful integration in the

lifeworld. Despite their methodological divergence, both thinkers agree that artefacts are more than inert objects. For Kapp, they are expressive and reflective; for Heidegger, they are revelatory and contextual. Yet the ontological implications differ. Kapp maintains that technology reveals the inner structure of the human being. Michael Kroes explains that, “Kapp’s philosophy emphasizes that human essence is realized and interpreted through the exteriorization of internal faculties into technological form” (63). By contrast, Heidegger holds that technology reveals the structure of worldhood. The ready-to-hand hammer is not about the human body per se, but about the totality of involvement that constitutes being-in-the-world. As a result, “Heidegger’s concern is not with the maker or the user but with the way in which technology shapes our mode of encountering reality” (Feenberg 142).

This distinction becomes even more pronounced when considering their views on breakdown. Heidegger argues that when an artefact ceases to function, when the hammer breaks, it shifts from “ready-to-hand” to “present-at-hand” (*vorhanden*), and we begin to notice it as an object. This moment of breakdown reveals the tool not as an extension of the body but as a withdrawn background structure that had silently supported our activity. “The hammering itself uncovers the specific ‘manipulability’ of the hammer,” Heidegger writes, “but when it breaks, it is for the first time that the hammer becomes an object of attention” (99). For Kapp, on the other hand, the artefact is always an object of reflection, even in use, it functions as a mirror through which human faculties become knowable. Another key difference lies in their normative implications. Kapp maintains a progressive view of technology, suggesting that the history of human development is also the history of self-realization through artefacts. Technology is thus humanizing. Heidegger, particularly in later works like *The Question Concerning Technology*, adopts a more hesitant stance, warning against the danger of enframing (*Gestell*), where the world is revealed only as a resource to be ordered and controlled. While his critique does not apply directly to the ready-to-hand concept, it casts a shadow over any overly optimistic embrace of technological mediation. It is premised on this that Olsen suggests that “Kapp and Heidegger can be viewed as engaging different moments of the same phenomenon; Kapp emphasizes the projection involved in creating tools, while Heidegger analyzes the world that those tools reveal in use” (75). This view opens the possibility of integrating Organ Projection and ready-to-hand as successive phases of artefact engagement; projection as design and ready-to-hand as lived experience. The juxtaposition of Kapp’s organ projection and Heidegger’s ready-to-hand reveals two robust and philosophically rich accounts of technology. Kapp situates technology within a self-reflective anthropological framework, asserting that artefacts are external mirrors of the human body and psyche. Heidegger, meanwhile, grounds technological meaning in practical, pre-reflective engagement, suggesting that artefacts disclose the relational structure of the world. Both approaches contribute uniquely to the philosophy of technology, namely; Kapp, by tracing technology to human self-understanding, and Heidegger by revealing how artefacts co-constitute the fabric of meaningful existence.

Critique of Kapp’s Ontology of Technological Artefacts

Kapp’s ontology has raised concerns with regards to the biological reductionism inherent in the organ projection theory. Kapp maps artefacts directly onto the human body, drawing anatomical parallels between organs and tools. However, this approach often oversimplifies the complexity of technological development and design. As Don Ihde points out, “Kapp’s thesis tends to privilege a one-to-one correspondence that risks reducing technology to an exercise in anatomical mimicry” (*Technology and the Lifeworld* 113). Such reduction fails to

account for the layered cultural, symbolic, and functional dimensions that artefacts often exhibit. A telescope may project the eye, but it also embodies theoretical principles of optics, observational practices, and even cosmological assumptions. Furthermore, critics have noted that Kapp's theory is largely decontextualized, lacking sensitivity to the social and political structures in which technology operates. This was clearly explained by Langdon Winner when he argues that "Kapp's analysis overlooks the fact that artefacts are not just projections but products embedded in systems of power and authority" (41). By focusing exclusively on the individual human body as the basis for artefactual meaning, Kapp neglects the socio-technical networks that give rise to, shape, and constrain technological development. A railway system, for example, cannot be adequately understood as a projection of human locomotion alone; it must also be read as a function of industrial capitalism, urban planning, and labor politics. From the problems above one can deduce that Kapp's framework underestimates the emergent functionality and autonomy of technological artefacts. Once created, artefacts do not merely mirror their human origin but participate in shaping human activity, perception, and organization in unforeseen ways. It is not surprising, then, that Carl Mitcham remarks that, "the assumption that tools merely extend man obscures the dialectic whereby tools transform man's relation to nature and to himself" (152). The artefact is not just an expression of a pre-existing organ; it is a medium through which new forms of practice and thought become possible. Kapp's theory lacks the ontological flexibility to account for this transformation.

Additionally, the hermeneutic role Kapp assigns to artefacts, stating that they reflect human faculties back to the self is criticized for being overly idealized. While this interpretive function is insightful, it presumes a transparency between artefact and self-understanding that may not hold in practice. As Andrew Feenberg observes, "Kapp tends to treat the technological object as a static mirror, when in reality technologies often obscure, mystify, or even alienate the self they supposedly reflect" (65). Artefacts can conceal as much as they reveal, especially when wrapped in ideological or market-driven forms. A smartphone might reflect our communicative capacities, but it also constructs compulsions, filters perception, and mediates identity in complex, non-reflective ways. Peter-Paul Verbeek notes that "technological artefacts have hybrid roles: they are at once instruments, mediators, and actors within socio-material practices" (77). Consequently, one can say that Kapp's framework does not adequately address technological pluralism which is the fact that many artefacts serve multiple and shifting purposes. The notion of a singular organ-function relation fails to capture the multistable nature of modern technologies. A drone, for instance, cannot be straightforwardly analogized to any one human faculty; it encompasses vision, mobility, computation, and weaponization simultaneously. Kapp's model, being primarily analogical and anthropocentric, lacks the conceptual resources to describe this hybridity.

It can be noted, too, that contemporary philosophy of technology often emphasizes the relational ontology of artefacts relating to how artefacts gain meaning through interaction, not isolated projection. Gilbert Simondon's theory of individuation, for example, suggests that artefacts evolve through a process of technical becoming, rather than springing forth fully formed as expressions of human intention. Simondon purported that, "The technical object should be understood in terms of its genesis and internal coherence, not merely as a human instrument" (*On the Mode of Existence of Technical Objects* 47). This developmental view contrasts with Kapp's static correspondence model and foregrounds the autonomy of technological evolution. As a result, while Ernst Kapp's theory of organ projection provides a foundational insight into the anthropological dimension of technology,

it falls short as a comprehensive ontology of technological artefacts. His analogical and bodily-centric model fails to accommodate the social, political, functional, and evolutionary complexity that artefacts exhibit in practice. The assumption that technologies are transparent projections of human faculties underestimates their transformative power and social embeddedness. Future philosophical inquiry must build upon Kapp's insights while moving beyond his limitations, incorporating more dynamic, relational, and contextual models of technological being.

Implications of Kapp's Ontological Stance on Technological Artefacts

From our discussion so far, it becomes evident that Kapp's ontological stance offers a hesitant legacy for the philosophy of technology. His claim that technological artefacts are projections of human organs opens a provocative way of interpreting technology as an extension of the human self. Yet, this view entails far-reaching philosophical implications for how we conceive of human identity, technological agency, and the boundary between the natural and the artificial. While it fosters a deeper anthropological understanding of artefacts, it simultaneously risks diminishing the complexity and autonomy of technological systems in the modern era. One of the most immediate implications of Kapp's position is that it distorts the line between the organic and the mechanical. In projecting internal structures outward into the material world, human beings externalize their faculties in ways that shape their environments and, in turn, themselves. This results in a reciprocal relation between human nature and the technological artefacts it produces. As philosopher Siegfried Zielinski remarks, "Kapp is one of the first to locate the origin of machines within human embodiment, not outside of it" (Zielinski 49). The human is not merely a tool-using animal but a being that reveals and develops itself through technical creativity. This suggests that technology is not an alien force but part of human becoming. This is a notion that challenges narratives of technological alienation found in later thinkers like Heidegger.

However, Kapp's ontology also carries normative implications that can be problematic. By positioning artefacts as essentially derivative of human anatomy and intention, his framework renders them ontologically subordinate. This reinforces a human-centered teleology in which technology is always defined by its origin rather than its consequences or emergent roles. In an age of autonomous systems and algorithmic decision-making, such a view may be dangerously reductive. Artefacts like machine learning models or AI-generated content often escape the narrow boundaries of original human purpose, suggesting a more distributed and complex account of agency. Moreover, Kapp's stance implies a linear view of technological development tied to human evolution. As technology progresses, humans externalize increasingly abstract functions ranging from motor control to cognition into devices. This trajectory assumes a kind of progressivism that neglects historical ruptures, failures, and ethical dilemmas that often accompany technological advance. Gunther Anders critiques this view implicitly when he observes, "we are smaller than our products; they outgrow us and become incomprehensible to their own creators" (18). In this light, Kapp's projectionism appears idealistic, insufficiently attentive to the alienating and unintended dimensions of technological mediation. Nevertheless, Kapp's theory positively invites an anthropotechnical perspective, emphasizing that to understand human nature, one must also study the technologies that materialize it. The implication here is that artefacts are hermeneutic tools; they do not merely function, they interpret. This makes Kapp's thought invaluable for any ontology that seeks to integrate embodiment, expression, and the material constitution of meaning.

Conclusion

This paper is grounded on the thesis that technological artefacts, as conceived by Ernst Kapp, are not merely tools or extensions of human functionality but ontologically significant entities that reflect and mediate human self-understanding. Drawing from Kapp's principle of organ projection, the study critically examines the claim that artefacts externalize human organs and cognitive faculties, thereby offering philosophical insight into human nature. However, the study goes beyond explicating Kapp's original thesis to explore and challenge the adequacy of this framework within contemporary debates in the philosophy of technology. The central argument pursued is that while Kapp's organ projection model effectively inaugurates a human-centered ontology of technology, it is ultimately limited by its reductive analogical method and its anthropocentric assumptions. The paper demonstrates that by reducing artefacts to one-to-one projections of human anatomy or psyche, Kapp overlooks the socio-technical, contextual, and emergent dimensions of technological existence. The study contends that technological artefacts are not passive reflections of human faculties but active participants in the shaping of human experience, perception, and social structure.

To support this position, the paper juxtaposes Kapp's views with other key philosophical approaches, including Heidegger's concept of readiness-to-hand, Simondon's individuation of technical objects, and postphenomenological accounts of technological mediation. These frameworks are employed to argue that the meaning and ontology of artefacts are relational, dynamic, and not strictly tied to original human intentions or bodily analogues. Through this comparative critique, the paper establishes that technological artefacts often gain autonomy, multistability, and contextual functionality that challenge the core of Kapp's projectionist ontology. The conclusion reached is twofold. First, Kapp's work remains foundational in situating technology as central to human self-conception, making a significant historical and philosophical contribution to understanding the human-techno relation. Second, for a more robust ontology of technological artefacts, it is necessary to move beyond Kapp's projectionism and adopt models that account for artefactual agency, socio-material interaction, and the evolving nature of technological mediation. Thus, the research repositions Kapp's theory as a necessary but incomplete step toward a more comprehensive philosophical account of technology in contemporary world.

Works Cited

- Achterhuis, Hans. *American Philosophy of Technology: The Empirical Turn*. Indiana University Press, 2001.
- Akrich, Madeleine. "The De-Description of Technical Objects." *Shaping Technology / Building Society*, edited by Wiebe Bijker and John Law, MIT Press, 1992, pp. 205–224.
- Anders, Günther. *The Obsolescence of Human Beings: Volume I*. Translated by Christopher Müller, Stanford University Press, 2021.
- Coeckelbergh, Mark. *AI Ethics*. MIT Press, 2020.
- Feenberg, Andrew. *Between Reason and Experience: Essays in Technology and Modernity*. MIT Press, 2010.
- Feenberg, Andrew. *Questioning Technology*. Routledge, 1999.
- Friedewald, Michael. "Ernst Kapp's Organ Projection: A Historical Reflection on the Philosophy of Technology." *Techné: Research in Philosophy and Technology*, vol. 9, no. 2, 2005, pp. 91–102.
- Heidegger, Martin. *Being and Time*. Translated by John Macquarrie and Edward Robinson, Harper & Row, 1962.
- Heidegger, Martin. *The Question Concerning Technology and Other Essays*. Translated by William Lovitt, Harper & Row, 1977.

- Houkes, Wybo, and Pieter E. Vermaas. *Technical Functions: On the Use and Design of Artefacts*. Springer, 2010.
- Ihde, Don. *Postphenomenology and Technoscience: The Peking University Lectures*. SUNY Press, 2009.
- Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Indiana University Press, 1990.
- Irrgang, Bernhard. "Ernst Kapp's Philosophy of Technology: A Modern Interpretation." *Philosophy and Technology*, vol. 13, no. 3, 2000, pp. 89–98.
- Irrgang, Bernhard. "Philosophical Anthropology and Philosophy of Technology." *Techne: Research in Philosophy and Technology*, vol. 7, no. 2, 2004, pp. 99–110.
- Kaplan, David M. *Readings in the Philosophy of Technology*. Rowman & Littlefield, 2009.
- Kapp, Ernst. *Elements of a Philosophy of Technology (Grundlinien einer Philosophie der Technik)*. 1877. Suhrkamp, 1978.
- Kroes, Michael. "Organ Projection and the Technological Constitution of Human Nature." *Philosophy and Technology*, vol. 20, no. 2, 2006, pp. 59–70.
- Kroes, Paul, and Anthonie Meijers. "The Dual Nature of Technical Artefacts." *Studies in History and Philosophy of Science*, vol. 37, no. 1, 2006, pp. 1–18.
- Latour, Bruno. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press, 2005.
- Miller, Daniel. *Stuff*. Polity Press, 2010.
- Mitcham, Carl. *Thinking Through Technology: The Path Between Engineering and Philosophy*. University of Chicago Press, 1994.
- Olsen, Jan Kyrre Berg. "Kapp, Ernst." *Philosophy of Technology: Key Thinkers*, edited by David Kaplan, Continuum, 2009, pp. 59–67.
- Olsen, Jan Kyrre Berg. "The Situatedness of Technological Understanding: Heidegger and Kapp on Technology." *Techne: Research in Philosophy and Technology*, vol. 12, no. 1, 2008, pp. 73–88.
- Preston, Beth. *A Philosophy of Material Culture: Action, Function, and Mind*. Routledge, 2013.
- Schneider, Susan. *Artificial You: AI and the Future of Your Mind*. Princeton University Press, 2019.
- Simondon, Gilbert. *On the Mode of Existence of Technical Objects*. Translated by Cecile Malaspina and John Rogove, Univocal Publishing, 2017.
- Sloterdijk, Peter. *You Must Change Your Life*. Translated by Wieland Hoban, Polity Press, 2013.
- Vallor, Shannon. *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*. Oxford University Press, 2016.
- Verbeek, Peter-Paul. *What Things Do: Philosophical Reflections on Technology, Agency, and Design*. Penn State University Press, 2005.
- Vermaas, Pieter E., and Anthonie Meijers. *A Philosophy of Technology: From Technical Artefacts to Sociotechnical Systems*. Morgan & Claypool, 2011.
- Winner, Langdon. "Do Artefacts Have Politics?" *Daedalus*, vol. 109, no. 1, 1980, pp. 121–136.
- Winner, Langdon. *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. University of Chicago Press, 1986.
- Zielinski, Siegfried. *Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means*. MIT Press, 2006.