Philosophy Study, May-June 2025, Vol. 15, No. 3, 101-104
doi: 10.17265/2159-5313/2025.03.001

The Intricate Web of Technological Existence: A Short Essay on the Philosophy of Technology

Paulo Alexandre e Castro
Universidade de Coimbra, Coimbra, Portugal

The philosophy of technology investigates technology's nature, impact, and implications. Early thinkers like Ernst Kapp saw technology as human organ extensions, while John Dewey emphasized its pragmatic role in problem-solving. Heidegger, conversely, critiqued modern technology's "framing" of nature, a concern echoed by Jacques Ellul's view of technique as autonomous and by Herbert Marcuse on technology's role in social control. Don Ihde explored how technology mediates human perception, and Bruno Latour developed actor-network theory, viewing artifacts as active agents. And many other contemporary thinkers like Bernard Stiegler, Paul Virilio, Shannon Vallor, and Yuk Hui continue to broaden the field, addressing ethics, speed, and diverse "cosmotechnics". This evolving and dynamic field remains crucial for navigating our technologically shaped world, and therefore, to analyze technology's ethical, social, and existential implications for our world. This essay is a state of the art about this delicate relationship.

Keywords: philosophy of technology, essence of technology, human-technology relations, technique

Philosophy of Technology: Perspectives and Implications

Technology, omnipresent and intricate in human life, has long transcended its role as a mere tool to become a central object of philosophical inquiry. The philosophy of technology seeks to unveil the nature, impact, and ethical, social, and existential implications of technological creations in the world and on humanity itself. From the earliest manifestations of technique to the complex digital networks of contemporary times, thinkers from various eras and schools have delved into this symbiotic relationship, shaping a multifaceted field of study.

The concept of technology (in essence), is not new. Ernst Kapp, in his seminal work *Grundlinien einer Philosophie der Technik* (1877), is often credited with establishing the philosophy of technology as an autonomous discipline. Kapp viewed technology as a "projection of human organs" arguing that tools and machines are extensions of human physical and mental capacities. This initial perspective, though mechanistic, laid the groundwork for an understanding of technology as something intrinsically linked to our own constitution.

Modernity brought unprecedented technological acceleration and complexity, demanding new approaches. John Dewey, with his pragmatic vision, emphasized technology not just as objects, but as processes and activities; technology is fundamentally a form of problem-solving, a means by which human beings interact with and shape their environment for practical drives. In *John Dewey's Pragmatic Technology* (1992), Larry Hickman explores the depth of Dewey's thought, showing how technology is inseparable from human experience and intelligence.

Paulo Alexandre e Castro, Ph.D., Researcher, Institute for Philosophical Studies, University of Coimbra, Coimbra, Portugal; invited professor at Polytechnic University of Viseu, Viseu, Portugal.

In contrast to Dewey's utilitarian view, thinkers like Martin Heidegger cast a more critical and existential eye on technology. In *The Question Concerning Technology* (1977), Heidegger argues that the essence of modern technology does not lie in the instruments or machines themselves, but in a "disposition" or "modes of revealing" of being. He coined the term "Gestell" to describe how modern technology "challenges" nature, transforming it into mere "standing-reserve" or available resource for exploitation. For Heidegger, this form of revealing represents a danger to the very essence of human being, by reducing the world to a set of calculable and controllable objects. Expanding on Heideggerian concerns, Jacques Ellul, in *The Technological Society* (1964), offers a biting critique of the growing autonomy of technique. Ellul argues that technique has become an end in itself, transcending human control and driven by its own internal logic of efficiency/rationality. He saw technology as a totalizing system that colonizes all spheres of human life, leading to dehumanization and loss of freedom. Jeffrey M. Shaw, in *Illusions of Freedom: Thomas Merton and Jacques Ellul on Technology and the Human Condition* (2014), delves deeper into Ellul's analysis of the human condition in the technological age. Not forget Herbert Marcuse, in his work *One-Dimensional Man* (1964), criticizes how technology in advanced industrial society serves to perpetuate social control and domination. Modern technological rationality is not neutral, but embodies an instrumental rationality that suppresses the possibilities for liberation and for a fair society. Technology becomes an instrument of pacification and conformity, masking social contradictions.

Another incisive critic of technology was Günther Anders. His work highlights the "Promethean gap", the growing discrepancy between human capacity to create technology and our ability to understand or control its consequences. Anders lamented our shame, our inability to keep pace with the capabilities of our own creations. He argued that we become obsolete in comparison to the machines we create.

From the 1970s and 1980s onwards, the philosophy of technology began to diversify even further. Langdon Winner, in *Autonomous Technology* (1977), developed the concept of "technological autonomy", arguing that technology is not just a set of neutral tools but a way of life that has its own rules and logic (his famous sentence "artefacts have politics", suggests that technological artefacts embody social and political choices).

The phenomenology of technology, particularly through the work of Don Ihde, brought a new dimension to the discussion. Don Ihde, in *Philosophy of Technology* (1998), focuses on the human-technology relation, exploring how technology mediates and shapes our perception of the world and our interactions with it. He proposes a typology of human-technology relations (incorporation, hermeneutic, alterity, and background) that demonstrates the complexity of technological experience. Don Ihde emphasizes that technology is not a simple "means to an end", but something that co-constitutes our reality and our subjectivity. In a certain way Vilém Flusser (2011) already saw this scenario when stating about the digital-dots that were arriving in everyday lives.

Bruno Latour (social constructivism), argues that technology is not an objective given, but a product of social and cultural interactions. In *Science in Action* (1988), Latour develops "actor-network theory", which treats non-human objects, such as technologies, as "actors" on the same plane as humans, underscoring their capacities to shape and influence social relations. Technology is a network of associations between humans and non-humans.

The philosophy of technology has also intertwined with discussions of gender and identity. Donna Haraway, in her seminal *A Cyborg Manifesto* (2000), challenges traditional dichotomies between human/machine, nature/culture, and man/woman. She proposes the figure of the cyborg as a metaphor for the possibilities of post-human identity and subjectivity in the technological age, celebrating the potential fluidity of new forms of agency.

Another contemporary thinker has further enriched the field. Paul Levinson, in *Mind at Large: Knowing in the Technological Age* (1988), explores the interconnectedness between the human mind and information

technology, arguing that technology expands and amplifies our cognitive and communicative capacities.

Bernard Stiegler, in *Technics and Time, 1: The Fault of Epimetheus* (1998), explores the fundamental relationship between technics, time, and memory, arguing that technique is constitutive of humanity. In turn, Paul Virilio, focuses on dromology (the science of speed), arguing that the speed imposed by technology has profound social and political implications, resulting in a "speed war" that alienates humans.

The concern with ethics in technology is a constant and Shannon Vallor, in *Technology and the Virtues* (2016), explores how classical virtues can be updated to guide the responsible development and use of technology in the digital age. Yuk Hui and Peter Lemmens in *Cosmotechnics* (2021), argues for the need to rethink technology from diverse cultural traditions, challenging the hegemony of Western technological rationality and proposing a plurality of forms of relation with technique.

The legacy of the philosophy of technology is rich and complex, with many other names like Gilbert Simondon (2017), with his theory of technical individuation that offers a profound understanding of how technical objects come into existence and develop, not as static entities, but as dynamic processes.

In Sort of Conclusion

The philosophy of technology is a dynamic field that continues to evolve as technology itself advances. From concerns about the essence of technique and its relationship to being (Heidegger, Ellul) to analyses of human-technology mediations (Ihde), socio-technical networks (Latour), and identity transformations (Haraway), philosophers of technology have urged us to question our role in a world increasingly shaped by our own creations. Technology must be closely monitored, especially given the rapid growth of artificial intelligence (as Nick Bostrom has warned us, we will (possibly) have to deal with a super technology (superintelligence) whose "intentions" one cannot predict). That's why understanding technology is not just an academic exercise, but a pressing necessity to navigate the ethical, social, and political challenges it presents, and to shape a future where technology and AI can truly serve human well-being. A responsible way of developing technology, like a friendly artificial intelligence, as suggested by Bostrom (2014), may be the solution, not to save us from technology but to save us from ourselves and from our ambitions of technological existence: from the ambitious of playing Good.

References

Babich, B. (2023). *Günther Anders' philosophy of technology: From phenomenology to critical theory*. London: Bloomsbury.

Bostrom, N. (2014). *Superintelligence: Paths, dangers, strategies*. Oxford: Oxford University Press.

Ellul, J. (1964). *The technological society*. Vancouver: Vintage Books.

Flusser, V. (2011). *Into the universe of technical images*. Minneapolis: University of Minnesota Press.

Haraway, D. (2000). A cyborg manifesto: Science, technology and socialist—Feminism in the late twentieth century. In *The cybercultures reader* (p. 291). London: Routledge.

Heidegger, M. (1977). *The question concerning technology*. New York: Harper and Row.

Hickman, L. (1992). *John Dewey's pragmatic technology*. Bloomington: Indiana University Press.

Hui, Y., & Lemmens, P. (Eds.). (2021). *Cosmotechnics: For a renewed concept of technology in the Anthropocene*. London: Routledge.

Ihde, D. (1998). *Philosophy of technology: An introduction*. Boston: Paragon House.

Kurzweil, R. (2006). *Singularity is near*. London: Gerald Duckworth.

Latour, B. (1988). *Science in action: How to follow scientists and engineers through society*. Harvard: Boston University Press.

Levinson, P. (1988) *Mind at large: Knowing in the technological age*. Greenwich: JAI Press.

Marcuse, H. (1964). *One-dimensional man*. Boston: Beacon.

Shaw, J. (2014). *Illusions of freedom: Thomas Merton and Jacques Ellul on technology and human condition*. Woodland Hills: Pickwick Pub.

Simondon, G. (2017). *On the mode of existence of technical objects*. Minnesota: University of Minnesota Press.
Stiegler, B. (1998). *Technics and time, 1: The fault of Epimetheus*. Stanford: Stanford University Press.
Vallor, S. (2016). *Technology and the virtues*. Oxford: Oxford University Press.
Winner, L. (1977). *Autonomous technology.* Cambridge: MIT Press.