Wittgenstein and Philosophy of Technology: Introduction

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Cutting-edge technological developments do not arise in a vacuum but are emergent phenomena in highly complex societal conditions. Philosophers of technology scrutinize that interplay, of technology and society, as it unfolds every day—and in everyday life. While drawn to contemporary technologies, philosophy of technology has a history of its own. That history is situated in a broader spectrum of the humanities and their engagement with practical reality across time. Ernst Kapp’s 1877 Elements of a Philosophy of Technology: On the Evolutionary History of Culture (Kapp 2018) serves as modern locus classicus, although critical reflections on kindred concepts can be found in ancient works as well. Aristotle’s reflections about technê, poiēsis, praxis and phrónēsis in his Nicomachean Ethics, for instance, still influence contemporary debate. Subsequent historic thought—from Roger Bacon’s reflections on technology’s role in scientific and social life in his Opus Maius to those of Francis Bacon in Novum Organum—often exerted less influence. The latter Bacon, at least, broke important ground by introducing an empirically oriented approach to questions of technology that informs the field to this day. And yet, while contemporary philosophy of technology owes conceptual and methodological insights to many such historical precedents, precedent alone cannot pre-empt contemporary reflection on technologies these authors did not, and could not, have foreseen. Innovations and emerging technosciences—from robots, synthetic organisms, and nanotechnologies to speech interface technologies (to name just a few)—mandate a fresh empirical look as well as the probing of novel conceptual frameworks. Indeed, a key strength of philosophy of technology...
of late is a refreshing willingness to critically engage the social underpinnings of the very technologies the empirical sciences have only begun to analyse. Foundational issues about mankind in an increasingly techno-cultural environment raise transdisciplinary questions. In those questions, anthropological, social, policy, assessment, and pragmatic facets are increasingly interwoven, and call for an increasingly transdisciplinary engagement and re-questioning.

Against this backdrop, Ludwig Wittgenstein cuts a somewhat unusual figure. Unlike the cited historic figures, his work never assumed the stature of iconic precedent among philosophers of technology. Nor, for that matter, is he recognized as a voice in philosophy of technology roughly contemporaneous with our own. Where, then, does this leave his work? What can that work say to philosophers of technology today? And what can be said, if not of, then to his work—from the vantage point of a field that has largely sidestepped it?

These questions inform the contributions gathered in this special issue, and reflect a plurality of approaches—and of speech—that would have been right at home with the historical Wittgenstein. To begin with, Wittgenstein’s work bears important insights into the role of language in human life. Language is a tool we use and is a form of technique, of skilful interacting with natural and cultural environments. But language is also philosophy’s basic research object and native medium. Philosophers work with language, formulate dialogues, essays and many other genres of linguistic expression. Additionally, for a few decades now mankind has been confronted with talking technologies. There is a fundamental shift going on from talking through to talking with technical systems. An approach that stimulates historical awareness, language as object and medium, and voice-controlled artefacts is most certainly one of the present issue’s larger targets. We require a deeper understanding of how language and technologies interrelate, both theoretically and practically (Coeckelbergh 2017b). At the level of theory, Wittgenstein’s use-theoretic approach to language may well hold lessons for analysing use of technology (Franssen and Koller 2016, 51–52; Funk 2010). Yet Wittgenstein’s work concerns not only language, but touches many issues of an extra-linguistic nature, including epistemology. It is this full spectrum from theory to practice that any contemporary engagement with Wittgenstein’s work for the sake of philosophy of technology has to entertain—in this special issue or elsewhere. The width of that spectrum, however, also helpfully demarcates current limitations.

As already indicated, the work of Ludwig Wittgenstein is seldom used by philosophers of technology, let alone in a systematic way. In general, there has been little discussion about the role of language in relation to technology (Coeck-
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elbergh 2015; Coeckelbergh 2017b). Conversely, Wittgenstein scholars have paid little attention to technology in the work of Wittgenstein. Exceptions exist. For example, Langdon Winner (1986) uses a cultural-hermeneutic interpretation of Wittgenstein to emphasize how technologies are always embedded in forms of life. Alfred Nordmann (2002) used the Tractatus to link Wittgenstein with thinking about technology. Perhaps unsurprisingly, both authors make a return in the present issue. More recently, Werner Kogge (2015) proposed a “grammatical” investigation of technology, which aims at clarifying concepts used in philosophy of technology in a way that reveals distinctions relevant to our life-reality as they structure our actions and experience. For instance, Wittgenstein’s concept of “family resemblances” can be used in this way. However, this approach is still mainly linguistic in nature and conceptually oriented. By contrast, the present issue—in line with the empirical turn that has come to epitomize much of philosophy of technology—emphasizes the materiality of tools and concrete embodied techniques. In that regard, the present editors agree that Wittgenstein’s works can be interpreted both as a philosophical approach to technology and as technical praxis of philosophy itself (Keicher 2008, 193). These authors’ suggestions, however, invite rather than conclude further work. And the cited exceptions only re-emphasize just how little attention contemporary philosophy of technology bestows on Wittgenstein in general—and how the field is still owed a more systematic inquiry of his work that fully probes its contemporary relevance.

Viewed from the other side of the divide, Wittgenstein scholarship has likewise given limited attention to his reflections on technology. While often acknowledging that Wittgenstein actively pursued work as an engineer and architect, scholarship on such biographical elements has remained insufficiently substantial to render its results fruitful materials for engagement by philosophers of technology. Exceptions are provided by Susan Sterrett (2005), who links Wittgenstein’s philosophical reflections to his aeronautical research and model building, and August Sarnitz (2017), who documents how Wittgenstein’s material engagement with architecture emerge from, and in turn inform, his reflections on cultural meaning in the making. Such work testifies to the connections between Wittgenstein’s thinking and his personal engagement with technology. More generally, if we take a closer look at Wittgenstein’s work, we see that several conceptual traces of engineering can be found: the Tractatus and especially his later works after 1930 bear explicit references to tool use and techniques, also in relation to his method (Nordmann 2002, 358–68; Keicher 2008, 191; Kogge 2015, 95). Biographical connections and conceptual tracing, by themselves, however, often mark
the beginning rather than conclusion to an interdisciplinary endeavour. Alleging that Wittgenstein’s engagements with philosophy and architecture alike “include linguistic and spatial practices,” for instance, requires support by “specific claims” which demonstrate that concrete (rather than heralded) “implications for a new interdisciplinarity” are on the horizon (Long 2009, 232).

This special issue seeks to narrow such gaps, and to create a remedy to the mutual oblivion that Wittgenstein scholarship and philosophy of technology have bestowed on one another. This remedy concerns not only specific claims about technology or about Wittgenstein, but also the way we (should) do philosophy of technology: it is also about method and approach. Taken together, the special issue could be seen to reflect Wittgenstein’s idiosyncratic way of engaging philosophy—performatively, rather than argumentatively. The aphoristic form of his *Investigations* and other writings illustrates the stark limitations of rendering philosophical insight in propositional form. Instead, philosophy—certainly when experienced rather than recorded—demarcates a reflexive performance by the individual, or (as Wittgenstein would frequently remind us) by individuals in dialogue with one another. This issue, then, at the surface probes the *content* of Wittgenstein’s reflections. But beneath that surface, the issue’s authors collectively test the performative limits of Wittgenstein’s project for the philosophy of technology: they engage in what one of us, in reminiscence of Wittgenstein’s fondness for language games, has coined “technology games” (Coeckelbergh 2017a).

To enable a dialogue this playful and pluralistic, and yet remain faithful to the taxing text of Wittgenstein’s work, the editors organized a workshop, aiming to attract work that at once ‘utilizes’ Wittgenstein to conceptually develop existing investigations in philosophy of technology and to improve our assessment of novel technologies in the twenty-first century. Entitled “Ludwig Wittgenstein and Philosophy of Technology” and held at the University of Vienna in the spring of 2017, the workshop broached questions such as the following: Is Ludwig Wittgenstein a ‘forgotten’ classical author in the philosophy of technology? Can we read Wittgenstein’s works in a way that renders these works helpful to the philosophy of technology? Conversely, could current positions and concepts in the philosophy of technology furnish a criticism of Wittgenstein’s thought, a criticism perhaps underdeveloped in or absent from the established reception (positive or critical) of Wittgenstein’s works? Can Wittgenstein’s late reflections on use and forms of life add to, possibly even rectify, current understandings of these notions in the philosophy of technology? What light, if any, does Wittgenstein’s personal engagement with the engineering profession (from his studies in Manchester to his
Vienna forays into building technology) shed on his subsequent engagements with philosophy? What can we learn from Wittgenstein to better understand how we talk to machines and how machines talk to us (e.g., social robots)? How can we use Wittgenstein to better understand the cultural, social, and political dimensions of contemporary technosciences such as synthetic biology (e.g., usage of the word ‘life’)? Does Wittgenstein help us to understand connections between language and technology in the internet of things? Can a Wittgensteinian approach contribute to addressing the problem of how to communicate specialized disciplinary terminology in transdisciplinary research?

First attempts at synthesizing the workshop’s diverse takes on those questions were made in late 2017 and early 2018 (Coeckelbergh 2017a; Coeckelbergh and Funk 2018), based on our own interests and orientations. The present issue, by contrast, lends voice to the workshop’s diverse voices, and seeks to further develop the discussion by including a variety of different perspectives and divergent analyses. A journey to that effect is by no means concluded—but it has definitely commenced, as our authors demonstrate. Respecting the often holistic analysis of techno-linguistic practices in Wittgenstein’s own works, the eight contributions have been grouped into four dialogues. At two voices each, those dialogues are entitled as follows: Performing Political Technologies, Performing Methodical Technologies, Performing Social Technologies, and Performing Cognitive Technologies.

Performing Political Technologies

In his paper “Technological Investigations: Wittgenstein’s Liberating Presence,” Langdon Winner uses Wittgenstein to call attention to the ways people talk about technology in everyday situations and in public discourse. These ways of speaking link technology to power structures and what Winner, following Wittgenstein, calls “forms of life.” Once such connections are forged, Winner contends, Wittgenstein can be employed to do critical work in science and technology studies that otherwise gets short shrift. Questions of an overtly more political nature can be addressed too, with information technologies and social media as exemplary fields of application. Winner ends with a proposal to move from hollow theorizing to the scrutiny and reflection of what our contemporaries are actually saying—much like Wittgenstein’s own work is informed at twists and turns by how exactly we feel inclined to verbalize our thought in public.

Eric B. Litwack’s “Wittgensteinian Humanism, Democracy, and Technocracy” investigates the relevance of Wittgenstein’s thinking to an understanding of
socio-moral life and political practice. He invokes several traditions in philosophy and social science, all of them touching on technological issues, and highlights their significance for an approach that focuses on Wittgenstein’s seminal notion of “forms of life.” Technological transitions and patterns of use frequently precipitate fundamental disruptions of moral and political life. Our understanding of these transitions, Litwack suggests, gains in depth if viewed from Wittgenstein’s vantage point—as does our normative assessment of those transitions from a broadly democratic perspective.

Performing Methodical Technologies

Wittgenstein’s varied takes on the problems of philosophy are discussed in Alfred Nordmann’s article “A Feeling for the Work as a Limited Whole.” The *Tractatus* stands in the focal point of this paper, where Nordmann critically claims that Wittgenstein “inadvertently opens up a perspective for the philosophy of technology.” Although the early Wittgenstein took an engineering approach to philosophy, Nordmann doubts that he had any conception of a philosophy of technology at all. Inspired by this observation current issues of philosophy of technology like working knowledge and representation are discussed at the faultline where the whole of the problems of modern philosophy breaks into pieces.

In his article “Repeatability and Methodical Actions in Uncertain Situations: Wittgenstein’s Philosophy of Technology and Language,” Michael Funk is emphasizing the epistemology of repeatability and methodical actions in uncertain situations. He reveals similar constructivist and pragmatist elements (including both ordinary language practice and technical practice) in Wittgenstein’s works and current approaches in the philosophy of technology (Don Ihde, Peter Janich, Carl Mitcham, Jürgen Mittelstraß). Skill and competence are related to non-explicit knowledge, and serve as fundamental concepts for an epistemology of technology and language. Methodologically, Wittgenstein provides a pragmatic truth-criterion of successful repetition, which stands in contrast to a formal, logical and theoretical understanding of truth.

Performing Social Technologies

Mark Thomas Young investigates the relations between Wittgenstein’s late concept of rule-following and technical practice from a sociological point of view. In the article “Artifacts as Rules: Wittgenstein and the Sociology of Technology,” his main focus is on the practical example of the Geiger counter and the applica-
tion of Wittgenstein’s reflections in technology assessment and other STS-related fields. Young concludes that the *Investigations* have a great value for the analysis of both technical practice and artefacts, because it bears a unique focus on skilful actions and interpretations. Following Wittgenstein, Young claims that “the use of language cannot be understood as determined by a system of context independent rules of artefacts both in technology and language.” Accordingly, the context of application plays a crucial role in any form of analysing technologies or language.

In “Artefacts as Social Things: Design-Based Approach to Normativity,” Michał Piekarski and Witold Wachowski construe technical artefacts as social vehicles that, by virtue of their materiality, are capable of engaging (us) with biological and cultural facets of everyday life. Several interdisciplinary focal points arise, like design, ecology, and the elusive nature of meaning. Deploying Kripke’s (1982) controversial interpretation of Wittgenstein’s rule-following remarks, the authors forge a connection of social rules and norms to technical tools and the design of social practices. Through issues of standardization and mass production, design, they suggest, raises normative questions of how to structure interactive relations of power and responsibility. Wittgenstein himself emerges as a normative designer of sorts—both in his construction of highly idiosyncratic texts, as well as in his attempts to deliberately shape our modes of engaging them.

**Performing Cognitive Technologies**

Christoph Durt emphasizes challenges of cognitive technologies in relation to Ludwig Wittgenstein’s notion of rule-following and Allan Turing. In “From Calculus to Language Game: The Challenge of Cognitive Technology,” Durt aims to understand how sense is created within ordinary language in contrast to the technical transformation, replication and simulation of symbols. Language games are much more flexible and variable than calculi. A particular focus is on rigid and creative rule-following. Problems of cognitive technologies show up especially at places of creative rule-following, where different bodily, mental or cultural features illustrate the technical and conceptual limits of simulation.

In his article “Wittgenstein’s Remarks on Technology and Mental Mechanisms,” Thomas Raleigh shows that technical examples present a thematic unity of sort, to both Wittgensteins life and (some of) his philosophical works. In particular, Raleigh provides a close-up examination of Wittgenstein’s intricate arguments in opposition of a mechanistic model of the mind. Both appreciative and critical of these arguments, Raleigh suggests that understanding those machines
cannot purely rely on inner workings but must tap into analysis of non- and verbal behavioral patterns.

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References


