

Friedrich Rapp  
with a supplement by Daniel Schubbe

# Philosophy of Technology

Fakultät für  
**Kultur- und  
Sozialwissen-  
schaften**

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## About the Author

Prof. Dr. Friedrich Rapp

Curriculum vitae

born 1932

1953-1959	Study of physics and mathematics at the TH Darmstadt
1959	First licence to teach at upper secondary schools (TH Darmstadt)
1959-1962	Research assistant for geometry and kinetics at the TH Darmstadt
1963-1967	Study of philosophy at the University of Freiburg/Switzerland
1967	Doctor of philosophy (Freiburg/Switzerland)
1967-1968	Research assistant at the Institute for Philosophy of the TU Berlin
1969-1976	Assistant and assistant professor of philosophy at the TU Berlin
1972	Habilitation in philosophy
1976	Professor of philosophy and theory of science at the TU Berlin
1985	full professor of philosophy (special field philosophy of technology) at the University of Dortmund

Chair of the division Mensch und Technik in the Verein Deutscher Ingenieure (VDI), member of the editorial board of *Philosophia Naturalis*, *Philosophy and Technology* and research in philosophy and technology

## Publications (selection)

- Whiteheads Metaphysik der Kreativität, Freiburg/München 1986.
- Technik und Philosophie, Düsseldorf 1990.
- Neue Ethik der Technik?. Philosophische Kontroversen, Wiesbaden 1993.
- Analytical philosophy of technology, Dordrecht 1981.
- Die konstruierte Welt. Theorie als Erzeugungsprinzip, Dortmund 1997.
- Technischer Wandel und ethische Postulate, in: Gatzemeier, Matthias (ed.): Verantwortung in Wissenschaft und Technik, Mannheim [i. a.] 1989, pp.130-146.
- Die moderne Technik im Konflikt zwischen Entfaltung und Beschränkung, in: Lenk, Hans (ed.): Technikverantwortung. Güterabwägung – Risikobewertung – Verhaltenskodex, Frankfurt a.M. 1991, pp. 22-32.
- Die Dynamik der modernen Welt. Eine Einführung in die Technikphilosophie. Hamburg 1994.
- Kulturelle Orientierung und ökologisches Dilemma, Dortmund 1993.

- Normative Technikbewertung. Wertprobleme der Technik und die Erfahrungen mit der VDI-Richtlinie 3780, Berlin 1999.
- Destruktive Freiheit. Ein Plädoyer gegen die Maßlosigkeit der modernen Welt, Münster 2003.
- Ideal und Wirklichkeit der Techniksteuerung. Sachzwänge, Werte, Bedürfnisse. Vorträge und Diskussionen, Düsseldorf 1982.

## 0 General Remarks

### 0.1 Overview of the Course<sup>1</sup>

The following deliberations are intended to give a general overview of the contemporary state of the discussion of the philosophy of technology, so that arising questions might be placed in certain topical areas in the sense of an "intellectual geography" (Kant); to introduce, explicate and compare the specific questions of the philosophy of technology and the different answers that are offered; to empower the reader to grasp the basic thematic problems and the approaches of the different authors; to place the reader in a position to work through a selection of the especially important titles to which special reference is made.

As the present and available body of literature shows, albeit by no means uniform (and to a great extent even controversial), every author chooses his own approach more or less. The consequence is that, aside from works that refer (critically) to one another, there is no universally accepted terminological and theoretically structured ordering system. In order, in spite of the multifarious approaches, conceptions and theses, to make a classification system – and thus an intellectual geography – possible, a quite definite structure and order was chosen here. The outline thus yielded, to emphasise it explicitly, might just as well have been different in many cases. Every insight of philosophy or the individual sciences depends on a specific intellectual access. The plenitude of the world and its possible aspects makes itself available for discursive knowledge only when one is ready – at least for the interim – to decide on a quite definite starting point and a quite definite perspective. The philosophy of technology is no exception. In this case, as well, to put it pointedly, a certain one-sidedness is the price of the knowledge acquisition striven for. This is accepted, although just philosophy is to take it upon itself to overcome the particular epistemic perspectives of the individual sciences. Yet at a higher level of abstraction and with a greater degree of universality, philosophy is also subject to the the inevitability of a specific theoretical access – of one specific sort, as opposed to another, although in a correspondingly altered and generalised form.

*Chapter 1* provides an introduction and explains the specificities by which the philosophy of technology differs from other areas of philosophy. Due to the complex, multifarious phenomenon technology more broadly conceived, superordinate contexts must always be taken into account as well, although it is also of utmost importance to work out the specifically philosophical questions. *Chapter 2* concerns the way that led to modern technology. It is not so much concerned with the concrete process of its evolution (this would lie in the competency of the history of science, technology, and of social and cultural history). Rather, those methodological, epistemological and ontological premises are investigated in which modern technology is rooted. *Chapter 3* is concerned with the comprehensive, accelerated flux characteristic for contemporary technology. The portrayals and explanations that are rendered for this, insofar as the directly observable phenomena are concerned, occasionally approach theses of the social-, political- and

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<sup>1</sup> This course by Friedrich Rapp was published in a slightly modified version under the title: *Die Dynamik der modernen Welt. Eine Einführung in die Technikphilosophie*. Hamburg 1994.

economic sciences. Philosophical reservations vis-à-vis empiricism are inappropriate. If philosophical reflection is to escape the accusation of apriori speculation, the actual occurrence must be examined. The conceptions that are presented here concern the mid-level, which lies between the general description of the phenomena and a final, in-depth philosophical interpretation.

That there can be no uniform, quasi-canonical philosophical determination of the essence of technology becomes clear when one considers the various aspects that come into play. Technology is brought about by humans according to methodical principles; it is based on the alteration of the physical world for human purposes in accordance with known laws of nature; it is an integral part of our life-world and culture, an essential guideline for all economic, social and political processes – and all these processes and phenomena, inasmuch as they are concrete historical structures, are for their own part subject to historical vacillations. So S. Moser also tentatively considers, “that technology has no such coherently worked out structure as ‘nature’ and the natural sciences have, so that for it there can be no accordingly consistent analysis, because it could be a too complicated phenomenon, composed of the most heterogeneous elements. Nor could there be any one ‘essence’ of technology. In this case it would also be principally wrong to think that the critique of pure reason that Kant attempted with respect to the natural scientific conceptuality of this time were still missing from the world of technological concepts.”<sup>2</sup>

In accordance with this variety, chapters 4-7 focus on different, but nevertheless central philosophical aspects that all can make a just claim to contribute to a determination of the essence of technology. Technology stands in a connection to the bodily endowment of man (Gehlen), and it is the productive formation of nature (Moscovici). This is summarised in *chapter 4* under the superordinate term “naturalism”. By virtue of its teleological and inferential character, technology belongs to the context of rational thought. It can appear in a speculative theological interpretation as a continuation of creation (Dessauer) and it can appear from a Marxist-Leninist viewpoint as social appropriation of nature. As both aspects place emphasis on the rationality of the procedure, in spite of all their differences, they are treated in the *fifth chapter* under this common title. Technology is a constituent part of our everyday life-world (Husserl), it belongs to the manifestations of the objectivised spirit, or of symbolic forms (Cassirer), and it is the goal of Utopian future expectations (Bloch). Common to these three viewpoints is that technology is perceived as an element of culture; this is the chief topic of the *sixth chapter*. The *7th chapter* is about the attempt, through certain metaphysical-speculative interpretations, to give an insurpassable final essential determination of technology, be it by revealing its universal efficacy (Eilul), or by interpreting it as a consequence of Western metaphysics (Heidegger) or by conceiving it as a consequence of the pre-conceptual, pictorial, mythical thought. The *8th* and closing chapter “Problems and Alternatives” treats i. a. critical theory (Horkheimer, Adorno, Habermas), the epistemological critique of technology (Feyerabend), the ecology problem and the possibilities of an alternative technology.

Friedrich Rapp

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<sup>2</sup> Simon Moser: “Kritik der traditionellen Technikphilosophie”, p. 16.



The supplement complements the fundamental elaborations of Friedrich Rapp with current approaches of the philosophy of technology. *Chapter 1* contains an overview of different accesses to the philosophy of technology for instance out of ontological, epistemological, action theoretical and ethical view in the foreground, to make clear and to delineate the questions of the philosophy of technology. The *second chapter* elaborates consequences for the current developments in the philosophy of technology. Especial attention is paid to the dissolution of dichotomies that have long dominated the discussion in the philosophy of technology, for example, that between nature and technology. With the conception of technology as tool and as medium two paradigms of the technology-philosophical discussion are introduced with respect to the role of technology in the life-world. The *third chapter* discusses to what extent technology can still be thought over in terms of its instrumental dimension. Newer technological developments like the internet (of things) feature (in part open with respect to implementation) network structures whose contexture dynamic must be thought ever less instrumentally, and more medially. The *fourth chapter* introduces an expanded hermeneutic of technology that attempts to do justice to the waxing technization of all areas of life.

Daniel Schubbe

## 0.2 Bibliography

### 0.2.1 Bibliographies

Mitcham, Carl / Mackey, Robert: *Bibliography of the Philosophy of Technology*. Chicago 1973; originally as No. 2, part 2 of 10 (1973) of the journal *Technology and Culture* (the first, quite comprehensive, annotated bibliography).

Mitcham, Carl: "Philosophy of Technology". In: Paul T. Durbin (ed.): *The Culture of Science, Technology, and Medicine*. New York, London 1980, pp. 282-363 (provides a good overview).

Rapp, Friedrich: "Philosophy of Technology". In: Guttorm Floistad (ed.): *Contemporary Philosophy*, vol. 2. Den Haag 1982, pp. 361-412, revised and abridged as: *The Philosophy of Technology*. In: *Interdiscipl. Science Rev* 10 (1985), pp. 126-139 (commented overview of the international discussion).

### Special Bibliography:

Hanks, Joyce M. / Ellul, Jacques: *A Comprehensive Bibliography*. Greenwich, Conn. 1984 (Suppl. 1 of "Research in Philosophy and Technology").

Further bibliographical references can be found in the book series *Research in Philosophy and Technology*, Greenwich, Conn. 1978 ff. and *Philosophy and Technology*, Dordrecht/Boston 1983ff.