ERROR AS THE NATURAL END FOR ANY TECHNOLOGIES

LÁSZLÓ ROPOLYI

Eötvös Loránd University
Budapest, Hungary

Technology is a specific form of human agency that yields to (an imperfect) realization of human control over a technological situation—that is, a situation not governed to an end by natural constraints but by specific human aims. In this view, technology can be considered the only way of producing artificial beings. However, all technology is finite by nature, which means that sooner or later, all technology will fail, break down, and go wrong. The fate of all technologies and artificial beings produced by technologies is finitude. Human beings are artificial beings, in this way human existence is also finite.

KEYWORDS: *technology, artificiality, human nature, finiteness, maintenance*

1. Making the Artificial World of Humans

Technology has an infinite history, but its authentic philosophical understanding, the philosophy of technology, of course, has not. The philosophy of technology is a product of the late modern age, emerging in the middle of the 1960s and focusing on the actual technological difficulties of the age. To meet the objective of this paper, a much more general view and understanding of technology are needed. Instead of following in Heidegger's [Heidegger 1977], Ellul's [Ellul 1964], or any contemporary philosophers of technology [Ihde 1993, Feenberg 1999, Dusek, 2006, Olsen, Pedersen, Hendricks 2009, Sharff, Dusek 2014] footsteps, I propose a different philosophy of technology based on a more universal concept of technology [Ropolyi 2006, 2013, 2014, 2019]. In particular, the concept of technology must be broad enough to include technology in all its historical forms, primitive toolmaking as well as recent information technologies. No doubt this is an "essentialist" view on technology since only an essentialist view is capable of accounting for the features that protean historical forms of technology have in common, hence of identifying the fundamental and universal significance of technology for the human conditions.

I propose that the essence of technology is a specific form or aspect of human agency, the realization of human control over a technological situation. As a consequence of the deployment of this human agency, the course and the outcome of the situation are no longer governed by natural constraints but by specific human aims. The human control of technological situations yields artificial beings as outcomes. What is a technological situation? Technological situations are situations with a specific character. More concretely, technological situations vary, and they are not homogeneous by nature, so, they can be identified based on their different constituents. The components that make up a technological situation are:
- a given set of (natural or artificial) beings,
- humans (human agencies),
- their aims, and
- (situation-bound) tools.

Speaking in a Hegelian way, the essence of technology appears necessarily in concrete, particular technologies only, while on the other hand, all technologies necessarily embody the essence of technology.

According to this view, every element of the (artificial) human world is created by technology. Even human nature and our social being are

the products of our technological activity, and their characteristics are determined by the specificities of the technologies we use to produce them. In other words, humans have a necessarily self-creative nature, and their self-creating procedures are called technologies. Because of the specific representation possibilities (called double or multiple representation strategy) of the human mind (Ropolyi 2006), humans can be the components of a technological situation and, at the same time, a specific outcome of it.

In comparison with widely accepted views on technology, this view implies an extremely general and abstract conceptualization of technological praxis linked to specific anthropology. In particular, all human praxis appears as technological, or better said, as having a technological aspect or dimension. Therefore, the view on technology proposed above is really close to a philosophy or theory of human practice. Human practice includes the—imperfect—realization of human control over a situation. Of course, human practice is not identical to technological praxis, as the former has several other aspects as well, but it always and necessarily has a technological aspect too. Moreover, every human situation can be regarded as a technological situation, every human being as a technological agent, every human goal as accomplishable by a specific technology, and every human tool as a situation-bound technological tool (Ropolyi 2019).

The technological aspect of human practice is a response to human vulnerability and expresses the intention to gain control over the situations of our lives. Without such an—evidently partial—success, we would cease to be human beings; we would take part in natural situations as natural—animal—beings. For this reason, every technology is a technology of humanity: human beings, the human world, cultures, and societies are all products of different technologies. Further, technology is the only way humans can create themselves. Human beings were born together with technologies – and technology was born together with human beings.

The technological aspect of human practice, on the other hand, expresses very clearly the so-called "extensional disability" of human beings: we are not able to control over our world as a whole, and it is necessary to split it into such controllable situations of which we can control by different technologies.[1] Such technological situations are necessarily

1 Extensional disability can also be understood as an aspect of the fundamental condition of human nature proposed by Jácint Farkas, the existential disability (Farkas, 2021).

limited and finite domains of our complex and infinite world. Craftsmanship or "engineering" can be considered as an ambition to create controllable situations in an uncontrollable world. In this view, engineering is a meta-technological activity, a specific practice of handling the components of technological situations, which aims to set up controllable situations in a given, complex, infinitely extending environment.

Various branches of technology can be associated with various types of life situations. Our self-creating praxis is facilitated by a range of economic, legal, psychic, social, cultural, material, mechanical, medical, etc. technologies.

Notice that in this philosophy of technology, the concept of the situation has a central role. A situation is a (finite or infinite) collection or set of beings which includes, as an element, at least a human being. Every situation is a human situation. The concept of situation is closely related to the concept of the world and the concept of a system. Every world includes human beings, so the worlds are human worlds, similarly as it has been declared in the case of situations, but the world is an organized totality around the humans, in contrast to the situation in which it has no such structure. From a structural point of view, the situation is similar to the systems. A system is a set of beings taken arbitrarily together without any given structure. However, the situation is given, and the system is freely chosen. Therefore, the situation can be considered as a world without structure or a system without constitutive freedom.

Jacques Ellul begins his famous book [Ellul 1964] by trying to clear up the widespread but false view which identifies technology with machines. He stresses several times that though machines have played and continue to play an important role in any prevailing technology, this role today is not so essential anymore. What is more, nowadays there are more and more technologies in which machines do not participate at all [Ellul here refers primarily to social and "human" technologies]. At the same time, we could also observe in the past decades that the concept of "machine" plays a more and more important role in the description and interpretation of epistemological processes. In such discussions, the concept of "machine" is often used in a remarkably abstract manner or even as a metaphor. Think, for example, of the understanding of the concept of mathematics as a Turing machine or the usage of the machine metaphor in psychology or cognitive science.

Here we would like to remind the reader of Hegel's traditional approach: machines are artificial autonomous tools. They have no natural

structure and do not work in a naturally given way but through human contribution, they have a well-planned structure and relative autonomy, and (as a "gentle animal") they serve man. If we compare these characteristics with what we said earlier in connection with technology, it becomes clear that machines are a part of technology. In agreement with Ellul, we could say that though each machine is a part of technology (as a component of or a tool in a situation), not all technology uses machines (Ropolyi 2015).

Based on the above notes, we can speak about control over technological systems, but it is impossible to aspire to control over the world. As we mentioned above, in the practice of the "extensional disability" of human beings, the human world is disjointed into controllable situations.

For the connection of these ideas to Heidegger's famous analysis in his paper "The Question Concerning Technology" (1977), we can consistently substitute Heidegger's concept of "*Gestell*" (Enframing) for the concept of "technological situation" used above. In this case, perhaps we will also notice that our standpoint in the characterization of the historical forms of technology is significantly different from Heidegger's. According to Heidegger, there is a sharp difference between Ancient and modern technology (the earlier is creative, and the latter is related to power); however, we believe that this differentiation is unjustified: creation and power can only characterize any kind of technology together.

2. The Finiteness of Artificial Beings

Perhaps this is the point where one of the significant common characteristics of technologies (and machines) not mentioned so far becomes visible, that is, their *finiteness*. In other words, sooner or later, they necessarily fail, break down or lose their efficiency. The situation-creating power of man and the stability of situations is limited; the necessarily changing circumstances make a technology (or a machine) that has been functioning so far unsuccessful, we do not experience the realization of the desired goal, and our earlier successful control suffers damage. Of course, strictly speaking, this is what always happens: technology and the functioning of machines are never perfect, and we never fully reach the desired goal, but in the case of technologies regarded successful, we treat occasional differences as unimportant; they do not have any practical significance. In this way, the

efficiency of technology is largely a practical issue; in other words, its functioning proves to be efficient "only" in practice; the perfect realization of our goals is supposed to be "theoretically" impossible. Thus, for example, we can claim that not only is it impossible to find two identical leaves on the fields but no two identical "chips" have ever been manufactured either. However, this does not cause any problems since the small differences between "chips" do not have a significant effect on their functioning (most of the time of their use).[2]

We can observe similar processes in the case of social and moral technologies as well: for example, the idealized modernist aims were able to keep the technologies of modern life alive for centuries, but their imperfections and drawbacks have shown up and are doing so more and more irrevocably, thereby generating a need for new technologies (for the sake of simplicity, let us call them postmodern from the mid-20th century).

After all, it is a very important circumstance, that all technology is finite by nature, that is, it exists under the aegis of a final corruption. This means that, sooner or later, all technology will fail, go wrong, and produce errors, in other words, it finally becomes a non-wanted and not tolerated outcome. Moreover, not only the existence of all technologies, but that of all the artificial beings produced by technologies is finite. This finitude is rooted in the complex relationship between the individual technical situation and the world as a whole.

Technological situations can only function in the required manner if their components and their relationships are precisely formulated, stable, and fixed once and for all. However, because of their embeddedness in the world, the components of situations and the relationships among them necessarily change. Thus, the technical situation will inevitably change, control will be lost, and the technology will become flawed. The natural end of any technique is malfunctioning. Error is the natural death of any technology and any artificial beings. As for humans, we can recall Attila József's observation: "and my sins sum up into death."[3]

---

2 Additional aspects of these dilemmas can be found, for example, in Flores Morador 2011/2015).

3 "és bűneim halállá állnak össze" [József, A. 1931-1933]

3. Maintenance: Possibilities in Finitude

However, there are standard methodologies for some kinds of defiance of technological finiteness. The most common is *maintenance*. Maintenance is an "engineering" praxis to set one's face against the corruptions of the technological situation and to ensure that the given technology works properly. It is a continuous recreation and stabilization of the technological situation, for which it is not necessary to use the same kind of innovations as it was in the original creative praxis, but it can fundamentally contribute to the practical usability of all kinds of technologies. It is a coexisting technological and metatechnological praxis. Maintenance is an anti-error and error-correction activity. Its classical versions work in an intermittent form, for example, when a broken machine or failed technology is identified, reconsidered, repaired, and restarted to work well again. The other form of maintenance is continuous surveillance (see e.g., Foucault's ideas on it) when the error identifications and the interventions eliminating them happen simultaneously with the errors.

In our everyday practice we can meet with the traditional representations of maintenance men, mechanics, technicians, administrators (or simply admins) —in computing technologies with system administrators, webmasters, and so on. Sometimes they cannot do anything without fat manuals in which the huge number of possible errors is enumerated. However, an operating system of a recent computer can produce such a high number of errors (many million) that it is useful to create an "error message generator" to identify and understand them in the first place.

Based on the extended use of successful maintenance practices, one can have a feeling that the existence of many technologies (and machines) is sustainable basically infinitely. (The so-called "sustainable development" can be considered a specific realization of this ambition.) However, it is not the case.

Given that maintenance is also a technology, the ideas presented above imply that its existence is necessarily finite. That is, maintenance itself will fail sooner or later. This implies the need to maintain the maintenance repeatedly and continuously which ultimately leads to an infinite and thus practically impracticable procedure. In this way, it is impossible to avoid the final victory of the errors over the technological situations (and the machines).

Apparently, one can trust to error in error, but it would be significant only in a closed world – which is not the regular context for technological situations.

Natural beings can be considered eternal beings – but the artificial being exists under the power of finiteness. Natural entities are insensible to errors, they are errorless; hence, a broken natural entity is ultimately just another natural entity. Artificial entities are sensible to errors, they are error-depending; hence, a broken artificial entity ultimately is not another artificial entity. It is capable to lose its artificiality and fall into pure naturality. Naturality cannot be lost, but artificiality absolutely can. In this way, error is the natural end for any technology.

Returning to the problem of human errors which produce personal sins, we can recall the famous finding, namely that "to err is human, to forgive divine." Above we argued for the artificiality of human nature, so the first part of this diagnosis seems evident. However, instead of the irreal second part of the proposal, it would be more effective to focus on Attila József's idea on the causal relation between summing up our sins and death. Applying the humanist perspective to forgive other humans' sins everybody can contribute to postponing the death of any other human beings. The outcome of this praxis is not eternal life, but a consciously maintained finite human life.

References

Dusek, V. 2006. *Philosophy of technology. An introduction*. Malden (MA): Blackwell.

Ellul, J. 1964. *The technological society*. New York: Vintage Books.

Farkas, J. 2021. *Az egzisztenciális fogyatékosságban rejlő kiteljesedési lehetőségek – Bete-kintés a fogalom jelentésvilágába* [The possibilities of fulfilment, inherent in existential disability An insight into the world of meaning of the concept]. PhD dissertation, Budapesti Corvinus Egyetem.

Feenberg, A. 1999. *Questioning technology*. London: Routledge.

Flores Morador, F. 2011/2015. *Broken technologies: the humanist as engineer*. Lund: Lund University.

Heidegger, M. 1977 [1954]. The question concerning technology. In: D. F. Krell (Ed. & Trans.). *Martin Heidegger: Basic Writings* [pp. 287-317]. London: Harper & Row.

Ihde, D. 1993. *Philosophy of technology: An introduction.* New York: Paragon House.

József, A. 1931-1933. [Tájvers-töredékek] [Landscape poetry fragments]. https://www.mek.oszk.hu/00700/00708/html/kolto00000/kotet00001/ciklus00429/cim00441.htm.

Olsen, J-K. B., Pedersen, S. A., Hendricks, & V. F. [Eds.]. 2009. *A Companion to the Philosophy of Technology.* Oxford: Wiley Blackwell.

Ropolyi, L. 2006. *Az Internet természete. Internetfilozófiai értekezés* [The nature of the Internet. A treatise on internet philosophy]. Budapest: Typotex.

Ropolyi, L. 2013. *Philosophy of the Internet. A discourse on the nature of the internet.* http://elte.prompt.hu/sites/default/files/tananyagok/philosophy_of_internet/index.htmlhttp://elte.prompt.hu/sites/default/files/tananyagok/philosophy_of_internet/book.pdf

Ropolyi, L. 2014. On the science-technology relationship: a historical view. In: H. de Regt & C. Kwa [Eds.], *Building Bridges. Connecting Science, Technology and Philosophy* [pp. 175-187]. Amsterdam: VU University Press.

Ropolyi, L. 2015. On changing nature of technologies: Hermeneutics and the Internet. In: M. Funk [Ed.], *Transdisziplinär' ,Interkulturell.' Technikphilosophie nach der akademischen Kleinstaaterei* [pp. 111-122]. Würzburg: Königshausen & Neumann.

Ropolyi, L. 2019. Technology as an aspect of human praxis. In: M. Héder, E. Nádasi [Eds.], *Essays in Post-Critical Philosophy of Technology* [pp. 19-31]. Wilmington, Delaware: Vernon Press.

Scharff, R. C. & Dusek, V. [Eds.]. 2014. *Philosophy of technology. The technological condition: An anthology.* Chichester: Wiley Blackwell.

ARGUMENTOR 7

Error

Proceedings of the Seventh Argumentor Conference
held in Oradea/Nagyvárad, Romania, 16–17 September 2022

Editors:

Rozália Klára BAKÓ
Gizela HORVÁTH