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Questioning Technology: Instrumental and Anthropological Approaches*

Abstract

The question concerning technology is very often the question concerning the matter of the fact – the essence of what is called “technical”. According to the “old” philosophical doctrine, technology is: 1) means for the achieving of goals and 2) a certain kind of human activity. These notions about the nature of the “technical” we can label as instrumental and anthropological definitions of technology. According to the above-mentioned approaches, the history of technology is actually the history of human societies. However, the origin of the autonomous modern technologies poses the problem about the scope of technology. Can we use the “old” philosophical doctrine in the study of modern technology? Or should we find a new way of questioning technology in itself?

Since the beginning of human history, ideas about the meaning of making activities have found expression in sacred myth, in art, in philosophical and scientific discourse. The attempt of Francis Bacon (1561-1626) to turn human attention toward technology, in preference to politics and philosophy, was in itself undertaken by both engineering and humanity sciences. After the first revolutionary exultation in the face of the Romantic Movement, Jean-Jacques Rousseau (1750) criticizes the Enlightenment idea that scientific and technological progress automatically contributes to the advancement of society by bringing about a unification of wealth and virtue. The subsequent critique of modern technology poses the problem about the deep affinity between humanity and technology.

There are different ways of thinking about technology. The question concerning technology is very often the question concerning the matter of the fact – the essence of what is called “technical”. However, what is “technical”, what does “technical” mean? As Martin Heidegger says, according to the “classical” philosophical doctrine, technology is: 1) means for the achieving of goals and 2) a

* The paper is obviously work in progress and presents a preliminary and shorter version of forthcoming text.

certain kind of human activity (*Heidegger 1993*). These notions about the nature of the “technical” we can label as instrumental and anthropological definitions of technology. Both definitions are correct, but they do not reveal the essence of the matter, the essence of technology. We should ask ourselves – towards whom such technology refers as means and ends. We should ask about the frame, in which one can think about technology. The question about the frame of technology is also the question about its scope. Is technology just an instrument of human activity or is it an autonomous creature?

Let us start with a few basic questions. What is the purpose of technology? Why has it arisen? What is the reason for putting it into use? According to the very beginning of human history, technology is understood as an instrument - it fulfills basic human needs. However, this is not the whole story. The first and most natural technical object and, at the same time, technical means, or instrument of the man is its body. In this sense, technology does indeed relate to basic needs and the objects as simple tools are extensions of the human body. Although we can trace the idea about man as a ‘deficient being’ and technology as an organ projection in the works of Plato, Aristotle and Herder, it was certainly Ernst Kapp, the little-known originator of the term ‘philosophy of technology’, who gave it detailed and systematic elaboration. (see “Grundlinien einer Philosophie der Technik” 1877) Bernhard Waldenfels calls this functional viewpoint the “substitute function of technology”. (*Waldenfels 1995, p. 106*)

In addition, a man has not only a body but also mind. In other words, humans have no needs that are fixed once and forever. The normative, cultural impulses come into play after the basic biological needs have been fulfilled¹. Here is where Arnold Gehlen’s thesis belongs. He argues that by developing evermore-sophisticated tools humans transcended the sphere of innate behavioral patterns. “Furthermore, it must be kept in mind that whatever the output of a certain technological system may be, in order to be useful for us, its outcome or function must finally be reduced to bodily experience and to the level of the senses.” (*Rapp 1999, p.47*)

With putting technology into the context of the normative frame of reference, one can say that the certain kind of technology is brought out from a “state-in-

¹ According to Abraham Maslow’s hierarchy of needs

presence”². (Heidegger 1993) As Heidegger observes, technology in a “state-in-presence” does not withstand against us as an object in its objective reality. For example, the airplane on the landing strip is a distinct type of machine. From this viewpoint, it is just a technical object, but its essence and its mode of existence is hidden for us. If we bright the plane out of this “state-in-presence”, it becomes not only ‘a plane’ but ‘a flight No 000 of X-Airlines, flying from city A to city B’.

Thereby, we return back to the frame of technology. Modern technology overturns the means and the ends. The existing means become potentials, which generate ends by themselves. The traditional way of thinking that a goal is the starting point in the search of required means has changed into “the means determine the ends”.

There are two main changes, on which the above-mentioned shift is based. First, the development of more and more sophisticated instruments leads to the automation and the autonomy of technology. Second, there is a great take-over in the attitude towards nature.

It is not speaking of dominance of technology over man or vice versa. The scope of technology has changed deeply. There is no way of separating technology and the human being. Modern technology has brought about a complete change in the environment, in which we live, as well as in the internal frame of mind, i.e. in our life style.

The first main change is related to the process of deliberate and methodologically grounded search for new inventions, or what is called “invention of invention”. Such an attitude towards the physical world is by no means obvious. It is rather the outcome of the development of the Western history of ideas that led, roughly speaking, from Aristotle to Newton. “Most revealing in this respect is Descartes’ understanding of matter as the geometrically conceived *res extensa*³ that is governed by the laws of mechanics, an understanding in which living beings are considered as mere automata” (Rapp 1999, p. 51)

As Stephen Toulmin (Toulmin 1994) shows, the change in the attitude towards nature is based on the works of Galileo in physics and on Newton’s dynamic theory.

² Bestand (in German) - In other translations “standing reserve”

³ ‘res cogitans’ – ‘res extensa’ - Descartes’s Latin distinction of the two major ontological categories comprising reality: thinking things and extended things, or minds and bodies.

Together with the new Descartes' philosophical method, they become guidelines of the modern Western European science in the beginning of 17th century. With respect to technology, this change is characterized by new way of using natural forces. On the one hand, modern technology not only transforms the wind, water, and animals' forces but also stores and accumulates them. On the other hand, it often creates new natural processes (nuclear energy or genetic modifying) with vague results.

As a result of the shift, according to which the means determine the ends, modern technology determines our needs. In addition, the means we use are potentially and practically unlimited technical systems. A magic circle is formed, in which unlimited means create unlimited needs and *vice versa*.

To the instrumental definition of technology as means for the achieving of goals, we can oppose further antitheses.

To the myth of the man as a 'deficient being', we can oppose the notion of the man as a 'being of plenty'. In this sense, technology is not just a substitute of human organ but it is a mode of organization. Such modes of organization cannot be pre-given in advance. They have their roots deep in the creative feature of the human nature. It is inventiveness that underlies at the basis of all technologies. At the opposite pole lies the necessity, in which the objective factors of technology are incarnated – for example, the substance of a material, the non-elastic ad infinitum rhythms of the activity, etc. On the other hand, the instrument has its own dynamics. Technology, either as a simple tool, or as a complex system, has its own regularity that makes it an accomplice in the creative coordination of the goals. Historically, technology should be understood not in the terms of routine work but from the point of view of the invention and in this sense, in each '*labor*' there are hidden some parts of '*ars*'⁴. (see Waldenfels 1995, p. 111; Heidegger 1993) As Jacques Ellul pointed, the archaic technology transforms its natural enemy into its ally. Nevertheless, this is right not only for the archaic technology. The special graphic and shape design of all modern technologies confirm Ellul's note.

In ancient Greece, the term '*techne*' was used to name not only technique but also fine arts – '*poesis*'. Fine art was rooted not only in the sphere of art. The works of art were not only objects of aesthetic feast. As far as the essence of technology is not

⁴ *labor* (lat.) – endeavor, labor; *ars* (lat.) – art, ability, dexterity

‘technical’, the essential giving of meaning to technology should derive from the field, which on the one hand is related to the essence of technology and on other hand, is likewise fundamentally different from this essence. Such a field is art. (*see Heidegger 1993*)

However, not only the instruments have their own dynamics. This principle applies to the people who use the instruments. The man, who uses the instruments and masterminds them, falls by himself as a bodily being into technical attitude. The repeated action is embodied into a habit. In other words, the man builds a certain skill that possesses him in the same sense as he possesses it.

At the end, the instruments possess their own heaviness, which shows resistance to each attempt of mastering them. In its very beginning, technology means synergy, interrelationship that moves itself among pure serving and pure mastering. This issue questions the partial autonomy of man, as well as the pure automation of technology.

If technology, in conformity with its own possibilities, refers to the organization of the world around us and to the bodily self-organization of man, it should not be just an arsenal of means. In its attitude towards the world as a whole and towards our bodily experiences in this world, the ‘technical’ pierces everything. The expansion of technology to social, bodily, and human techniques is not something new or modern. The only new thing is the way of using these means.

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