Philosophy of Science, Technique and Technology

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Abstract: The philosophy of technology constitutes a relatively recent area of reflection, compared to other topics of philosophical interest such as science or morals. This fact is not independent of the change in public sensitivities regarding technological change and anti-essentialist tendencies of contemporary philosophy. On the one hand, the traditional essentialist approach in philosophy of science and knowledge, typical of currents such as logical empiricism, conceived of technology as applied science and, more globally, practical activity as an application of general rules or principles. Recent historicist and naturalistic approaches in philosophy of science, and the development of ICT studies, have favoured a more realistic and contextualized view of science and its relations with technology, facilitating awareness of the great diversity of problems. specific philosophical posed by technology.

Technology, on the other hand, has been categorized as a social problem in recent decades, becoming prominent in the media, public forums and political agendas. With the current intense technological development, the close dependence of the economy, institutions and ways of life on technological devices and processes, as well as the serious environmental repercussions or ethical and legal dilemmas caused by nuclear energy, has become especially evident.

As a result of both factors, the interest in technology acquires in recent decades a remarkable impulse and ends up making it an object of study in more and more monographs, specialized magazines and international conferences. The academic conceptualization of technology, understood as applied science, only reflected a culturally generalized point of view during much of this century.

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We must start from the idea that the characteristic of our time is not science, but technology.

Science was the hallmark of modern civilization, which placed the efforts of mathematical representation of the world at the service of a well-identified value, being a progress that was first understood as progress of knowledge.

Mill J. S. Technology, today, characterizes a postmodern or post-industrial civilization, whose efforts and values are scattered, perhaps, divergent, even if it emerges a logic - that of comfort - of which it is even not sure if we wanted to make it a value (Mill, 1882: 5-12).

The relationship between science and technique or technology and the possible difference in meaning between the terms must be developed.

Is there a philosophically relevant difference between the terms of technique and technology?

Most of the philosophy of technology is now written in English, the use of the word "technology" tends to spread. English hardly uses the term "technique", which nevertheless exists, with a rather narrow but interesting meaning: "technique" of an artist (painter, pianist), or directly corporeal know-how in general (dancer, gymnast).

Hence the hypothesis, simple but powerful: "technique" would designate directly bodily actions, of the order of the gesture, and "technology" would designate objects directly and therefore, by extension, all that is related to their use, their production, their presence in the world. It is the gesture that is technical (technique) , it is the object that is technological. Technique and technology are in no way opposed, they merge into each other, just like human gestures and artefacts.

At the helm of a high-technology sailing boat, despite all the on-board analysis and decision support systems, the helmsman remains the owner of a technique, that is to say a body know-how, directly related to a solid and simple material object (Mill, 1882: 5-12). Between the human body and the most complex artefact there are functional links, to very different degrees of technical sophistication. It is the unity of this set that must be understood, no matter where we decide to move the dividing line between technique and technology. Especially since the demarcation line between body and technique is itself not clear: the helmsman's arm can carry a pin, a plastic prosthesis on a joint, he can "see" the 'front of the boat or sails through video screens,' feel 'the house while keeping your eyes on an electronic artificial horizon.

The personal computer adapted to the man, whereas the computer technology previously required the man to adapt to it. The power of calculation is now also at the service of ease of use. Technological ease, natural and transparent learning have become indispensable.

Not so long ago, we delivered big manuals with software, and it was better to read them and keep them on hand.

Today, the software itself contains tutorial functions, for the rare cases where the user feels the need to learn; and above all, the software is designed to be used intuitively, relying on graphic symbols, on a real-time monitoring of the user's operations to offer him what he may need in the current operation, especially thanks to a gestural symbolism (the arrow of the mouse is a hand that catches, slides and places in a file, a pencil that highlights, a finger that points in a menu) (Ortega, 1932: 79-80)

All in a flexible logic, where the same thing can be done in many different ways (by a drop-down menu clicked, a keyboard action, a pop-up menu appearing alone, a personal macro-command).

This specific know-how and their symbolism constitute a culture that integrates with the interface of *Homo sapiens technologicus* with the world, just like the ancestral techniques of fire, cooking, soil cultivation, hunting or war. Specialists call these parameters "usability".

In companies, when imposed by management, the computer raised resistance. Today, it is the employees who demand a decent microcomputer and latest generation software to be able to work.

Police and gendarmes fighting for better working conditions evoke bullet-proof vests and desktop computers as priority issues. We learn that they buy computers using their own money to work (like teachers). The time when workers went on strike against computerization is over. To prophesy the revolt against the horror of computerized work was a mistake, diametrically opposed to reality.

The most important is the use of artefacts (Heidegger, 1954:89). It is based on an appropriation of technologies that, like all things really human, is not decided in the design offices, in the marketing seminars, or in the offices of ministries - and does not teach itself school.

We must not believe that technological development comes from high scientific spheres which we would "benefit" from when an industrialist would have the good idea to invite us there.

On the contrary. This usage is tracked by marketing professionals, who never decide anything - or rather who would never decide anything if we were still already consenting, inattentive, plunged into the somnambulism of consumption.

But this state of consumer dereliction is only a suspension of their decision-making power, which is exerted all the harder than it is rarely exercised.

Why are some philosophers interested in technology? Goeminne G. (2013: 58-60) asked what are the characteristics and new problems of *Homo sapiens* if he has really become a *Homo sapiens technologicus*?

We can't start from the idea that technology must "fit" into the "environment", it would be to return to the primary opposition of (kind) nature and (ugly) factories. Technology is our environment. The question is about the coevolution of nature, technology and the human being. To be possible, the ecology of technology must now accept the idea that nature, too, can change. The coastlines, the climate, the living species, all this has never ceased to change, this incessant change is the very process of life - evolution. To stop evolution by fixing nature as it is at any given moment is a perfectly absurd project. Now that we have built our cities by the sea, we would like to prevent the sea from evolving, as it has always done? Why not, to the limit? But let us at least have the decency to assume that by wanting to freeze nature for our own sake, we defend our interests. Do not drape ourselves in a very hypocritical "right" of nature to stay ... as it suits us.

The effects of technology should not be neutralized, because it has nothing to do in this world of nature and the human being. On the contrary, technology is one of the terms of the human habitation of the world, just as nature is.

The mixture between nature and technology represents a whole new environment, in the precise sense of the term, for *Homo sapiens technologicus* (Goeminne, 2013: 58-60). The living being lives only in an incessant exchange with its biological environment. The latter, which remains essential to our biological life, today is composed with a technological environment essential to our human life, and which took over the technical environment by which *Homo sapiens* has always been part of its natural environment. Technological artefacts evolve according to the logic of population dynamics peculiar to ecology and the theory of evolution.

Why are some philosophers interested in technology? What are the characteristics and new problems of *Homo sapiens* if he has really become a *Homo sapiens technologicus*?

The genetic utopia of today's biomedicine makes it possible to measure the degree of futurology in our representations of medicine. Let us remember that the image of science is not the same as science itself and that

everything is played out over the confusion between the content of science and the status of science.

The emergence of new ethical issues

In the life sciences, there is a clash of scientific models and paradigms between the geneticist model and an ecological-Darwinian model. The geneticist model, more closely linked to institutional science and industry, is intensively mobilizing the resources of advertising and bureaucratic resources.

The current representation of the biomedical intervention, the false image of a totalizing genetic science and an all-powerful genetic technique are in fact only one of the components of a larger system of representations that includes all the representations that the man has in terms of his means of action.

We have gone from a pathology medicine (restoring nature) to a physiology medicine: improving and maintaining the machine, but also improving its performance. There are no mad scientists in secret laboratories, but concrete realities, close and daily: doping in sport, psychotropic medicine and drugs in everyday life (Kroes , Anthonie, 2000: 29-32.).

These questions are unfortunately treated by the production of an ethical discourse whose inconsistency is at the heart of what is really a problem. People nowadays are not placed in difficulty by their technologies, but by the inconsistency of their reflection on technologies. In the AIDS research protocols, it is the patients and their associations who have imposed new clinical practices, shaking up the bureaucratic protocols of an official research and producing what Andrew Feenberg (1995) calls a "revolt against ethical regulations."

In matters of euthanasia, there are the sick ones and their relatives who impose decisions. In genetics, who can take the right decision in terms of the emerging issues that may occur? Once we've met, for example, the p53 gene that blocks cell reproduction when the DNA is damaged and prevents cancer, should we try to implant it in humans who do not have it? By making this genetic modification mandatory, as are some vaccines? Should we resist this genetic "eugenics"?

Hypocrisy stifles medical ethics. In euthanasia, actual practices are humane and relieve the end of life, but they do so with a bad conscience (Lee Ch, Lee Ch, 2009: 66).

Why do not we assume our capacity to give death without suffering, when this choice is itself assumed by a human being in difficulty and by those who love him?

Religious ideologies are not the only ones responsible for this ethical debacle. Philosophers, alas, contribute to this regime of micro-discourse.

In reality, this negativity of bioethics comes from elsewhere, by the mechanism of hypocritical technophobia: the too embarrassing human problems are transposed into pseudo-technological problems. We have difficulties, and that's normal, with death, sickness, suffering, perversions, etc., but it's not because of the technologies that allow us to act in these areas that we have these problems. On the contrary, it is because we do not know, can't or do not want to tackle these problems.

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