How to Make Technology Better?

Piotr Rosół

Academy of Special Education and Univeristy of Warsaw, Poland

0418

The Asian Conference on Society, Education and Technology 2013

Official Conference Proceedings 2013

Abstract

Technological progress and its consequences have strongly changed the way we live. This process have initiated a lot of philosophical and ethical reflections. Many of those reflections show us what is wrong with our attitude towards technology and that there are parts of technological development which lead to ill consequences. My thesis is that a part of a problem with technology is our understanding of it. The better philosophical concept of notion of technology can lead us to finding a way of using technology as a tool for making the world a good place to live. In my paper I present three ways of understanding technology and it's place in society. According to Hans Jonas we should be responsible for future generations and avoid situations, which could be dangerous for them. This embrace taking control over technology and avoiding catastrophes, which could be started by our inventions. Ivan Illich in *Tools for Conviviality* shows that using technologies is leading to such problems as bureaucratization and monopolization of our lives by scientifically justified practices. Kevin Kelly wrote about technology as a part of evolutional process. He highlights that technology can be seen as a tool to make our development faster. I use those ideas to propose a more diversified concept of technology. I show that we need to provide criteria of good and bad aspects of technology and start to think about different types of technological development – those which we would like to spread and those which we should not let to appear.

Introduction

Technology is ubiquitous in contemporary world. The intended and unintended consequences of it are one of the strongest forces shaping our lives. Even if there were people who would like to completely abstain from fruits of technological development, they would be burdened with the changes of biosphere, which have been made with use of technology. We employ technological devices to (naming only a few things): prepare food, move ourselves and products, create and benefit from culture, make clothes, communicate, write papers like this one etc. For example, in order to get to the conference I need to use internet to find information about it. After that I apply to attend, again using the web. I make the reservation for flight, hotel etc. I read books on Kindle and laptop to prepare my presentation. I use plane, train, subway to travel to the place where conference is taking place. This list could be much longer. Consequently, it is not surprising that technology have triggered a lot of discussions, as well as philosophical and ethical reflections.

Perhaps because it is easier to see what is wrong, evil and causes sufferings, a lot of thinkers concentrate on negative aspects and problems, which have been initiated by technology. From the other side, perhaps in opposition to the former, we can find utopians, eulogists of enlightenment and progress, in whose writings we will find apologies of technology and hopes for better future where technology will be a force enabling us to organize a new better world. Many authors would disagree with such simplyfing dichotomy and would say that they aren't on the one or the other side of barricade and they try to describe the phenomenon of technology in the aloof manner. For example Kevin Kelly would probably admit his overall positive attitude to technology, but would not agree to lable himself as a technological enthusiasts, who is unable to see technology as a diversified phenomenon. Similarly, despite writing about the daneger and issues evoked by technology, Hans Jonas at the same time underlines that he is not a fierce critic of technology and that he is able to see the positive side of it. The feauture which joins both above-mentioned thinkers is an attempt to find a way to cope with technology as a whole, to work out statements and rules, which could be applied to our way of development and enable us to guarantee technology a right place in a society. I am afraid that such approach itself is a part of our problems. The omnipresent character of technology creates the world in which almost everything we do is connected with it. In this case, the term describing so many aspects of our lives needs divisions, which will enable us to have technologies in assorted categories, for example – forbidden technologies, raising risks technologies, acceptable on a very small scale technologies, useful even in mass adoption technologies and so on. Thanks to such practice we would be better prepared to discuss resolutions, budgets, processes of decision-making and could more consciously decide whether to engage for or against any given technology. In other words I indicate some aspects of concept of technology, which would provide us with better tools to discuss about a very important factor influencing the world in which we live.

In this paper I analyze some aspects of conceptual work of Hans Jonas, Ivan Illich and Kevin Kelly. On example of writings of those thinkers I show that theorizing about technology should take into account not only what is the meaning of technology and arguments about aiming it in desired direction, but also what will happen if we discover, adopt or reject them. I will argue that we should decide about it on a social level.

Admirers and questioners of technological development

We need to improve apprehension of notion of technology and at least try to avoid shortcomings of enthusiastic and skeptic attitudes towards technology. The enthiusiastic attitude is dangerous, because it: makes harder to criticize some chosen research programes, disables discussions about bans or moratoriums on some of inquiries and experiments, undervalues social forces engaged in scientific and technological development (for example biases in favor or against financing different types of research); takes away responsibility from scientists, experimenters and inventors for effects of their work. The skeptic attitude is likely to be named as romantic, unrealistic and could force us into solutions, which hold back improvements, bound us to disadvantages and flaws of currently used technologies. If we would be able to avoid the considered division, the production of identities and camps would be harder, but we could make obsolete the opposition of technophobia and technophilia. In this manner we would be able to improve discussions about the paths and directions of technological development.

Human vocation

In my opinion, the differences between mentioned thinkers, which I describe below, stem from divergent opinions about human vocation (to avoid the term human nature, which enables us to evade some of controversies connected with this concept). There is a main difference between Ivan Illich, Hans Jonas and Kevin Kelly – they disagree about what should be the primary concern of humanity, and how we should understand our role on earth.

Kevin Kelly states that there are similarities between the evolutionary process and the patterns in technological development. According to him we should welcome technology as a new higher level of evolutionary process. It is better because it lets information to proceed in a much faster and in an effective manner than the way in which it is proceed on the level of DNA. For Kelly the most important task is advancing speed of acquiring new information and making progress in methods of analyzing them. This development will be a way of establishing a new seventh kingdom, after six biological ones, the kingdom of technology. In this way evolution will achieve a next step, which will be more efficient, durable and much more rapid, as well as easier to advance further. According to him, we should be open for new callings and treat technology as a part of our destiny, something that enriches us and is a creative continuation of our deeds. In a way we can say that for Kelly progress of computational abilities is a self-explanatory destination of human acts. In his interpretation, evolution and technology are both heading into the same direction of maximizing choices (cf. Kelly 2010, p. 43-56). From this perspective it is understandable why technology for Kelly is mostly seen as a chance but not as a treat.

Hans Jonas sees calling of humanity in preserving effect of the long process of evolution, which has its crowning achievement in enabling and evolving human species (cf. Jonas 1984, p. 43, 44). In this context technology looms as an ambivalent force. Looking through rose-tinted spectacles we could see in it a tool for helping us in realization of our calling, enabling richer lives of humans, but we should not close our eyes on the dangerous aspects of technological progress. Many possible inventions could change circumstances of human life in a high degree. It could lead to a situation in which community of those before and after such invention would be illusory, for example by providing techniques enabling enhancement in memory, intelligence and lifespan. The other problem with the newest inventions is a potential

endangerment of necessary conditions of human life on Earth. Firstly, by the direct threat to human lives, as for example by nuclear weapon along with chemical weapons. Secondly, by the indirect threat being a result of using some technologies, as with the side effects of burning fossil fuels, which are changing air quality, most probably are changing climate on Earth etc. Stressing such points makes Jonas more critical towards technological progress and enables him to formulate rules which could let us limit it.

According to Ivan Illich the endevour to reach possibly the most possible egalitarian society and balance in different aspects of life belongs to the most important values which should be realized by us. The first one, egalitarian society, should be promoted to allow as many people as possible to pursuit their goals and happiness. The second one, balance, embraces the notion of setting limits for different types of progress in order to counterbalance different types of human activities. In order to do that we need to avoid bureaucratization, culture of experts and unleashing our tools to become force tending to realization of escalated targets. It is possible for us to forget, what is the proper place of such technologies in society and what aims should they realize in the first place. In that way technologies are alienating from their tasks and become forces destructive for equality and equilibrium in a society. The method proposed by Kelly consisting of fixing problems generated by technology by developing even more advanced technology (cf. Kelly 2010, p. 215, 216) according to Illich is inappropriate. In opinion of Illich it will cause more problems in the future, because the logic of technological progress and attitude towards technology will remain unchanged and will generate more difficult and dangerous situations. Again we can see that the view about human calling in general impacts the view about technological development (Illich 1975, p. 11, 12, 50, 52, 92).

As we can see there is a connection between views about the human vocation and the perception of technology. In my opinion such divergence in opinions about desired human undertakings should be acknowledged and taken into account, while discussing craved directions of technological development and not surpassed or treated as something negligible.

Technology and ethics of responsibility

Describing the phenomen of technology, Hans Jonas spotlighted a question of the growing responsibility of our actions. According to Jonas responsibility should be proportional to growing abilities to change the world. In other words, as we are able to influence the genetic legacy of humanity, develop technologies, which change biosphere and mineral composition of predominant part of the world, we should also take into account what will happen in the future and have in mind that we are perpetrators of these processes (cf. Jonas 1984, p. 21).

There are two main reasons why it is very difficult to take this responsibility. The first is an ethical climate of our times. Jonas writes about axiological vacum - situation where the world in itself has no ethical value. The goals and senses in the world are limited to those invented and interpreted by humans. Ethics is used only to describe relations between human beings and abstains from evaluation of nature and our actions towards it (cf. Jonas 1984, p. 22-24). There is a threat that ethical neutrality is not ending on nature, but it is also relevant for understanding contemporary attitudes towards ethics. For example, the restrictions on applying ethics to provide validation

in public sphere and refusal of acceptance that values are playing role in scientific research, economics and administration. As in case of making accusations against not value free approaches of ideological character perilous to liberty of seeking the truth.

According to Jonas condition of axiological neutrality of nature is an effect of applying scientific method to every manner of describing the world. Mathematical method of making formulas about relations, complemented with scientific rules of experimentation, turned out to be a sufficient way to find relations between material objects. Success on this field headed whole knowledge in the same direction. Standards and conditions of knowing something resembled those developed in natural sciences, where ethical values were rather hazards than opportunities to full understanding of the world. They were dangerous because they could influence reasoning, disrupt experiment, put subjectivity into process of acquiring objective knowledge. Admiration for ability to put aside ethical values and consecutive accomplishments of science and later on of technological development shifted not only a norm about knowing something, but also main interests of society (cf. Jonas 1984, p. 22-24).

Another explanation of the problematic character of ethical values in contemporary world could stress out that values often vary depending on religion, culture, country, social status etc. Globalization of scientific knowledge and technology goes much faster, than globalization of ethical values. It is not clear if such globalization of ethical values should be desired, because it would probably result in fading away of local cultural differences. People lack consensus about ethical values and find agreement with each other about methods of achieving material goals. To some extent this generates alleged consensus about technological progress and at the same time avoidance of ethical questions as they will provoke controversies.

The second reason, which makes taking resposibility difficult, concerns problems with future events. It is not easy to grasp that our actual practices will shape conditions of living of posterity. Among others because predicting future circumstances is very difficult, sometimes even impossible. Technologies interfere with each other and prophecies to be precise, should take into account those influences prompted by technologies yet to be made. Even if we succeed in doing this and we would make forecast about forthcomings, we will still be only on level of dry knowledge. Motivating ourselves and giving us feelings about this is another matter, which is still more difficult. It would require demonstrating of processes, which exact course can not be known. It would require identifying ourselves with human beings, who are (as for now) just potentialities (cf. Jonas 1984, p. 28-31).

Axiological neutrality and problems with motivating ourselves to act taking into account well being of future generations do not absolve us from responsibility for evading situations which could put safety of future generations and ability to make their own choices at stake. In other words we should not, on any account, develop technologies, start processes, act in a way, which could bring the end of humanity. The end is understood here in three fashions – as a destruction of human beings; as a devastation of requisites of human life on Earth; as changes in genetic, cultural, scientific sphere, which would result in initiating new kind of human beings unable to comprehend our mode of existence, constituting new species. To prevent the danger of realizing any of this scenarios we need to control technological development, to

establish limits on technologies which could result in huge changes of circumstances of our lives and to change our modes of consumption in order to guarantee sustainability of human existence in the future (cf. Jonas 1984, p. 34-38, 188-191) .

Freedom

Another important philosophical category influencing a notion of technology and evaluation of technological progress is freedom. There are some interesting differences between examined thinkers in ways in which they understand it and what aspects of it they stress as the most important.

Kelly defines good as a possibility of making more choices, which according to him is identical with freedom. Assuming this, he makes the statement that the development of technology is good because it allows us to make more choices. In this way it gives us more freedom (cf. Kelly 2010, p. 263) . I am not convinced by this argument. More freedom to choose is not always something good. More and more complicated financial instruments were perhaps something good for a short run for some brokers and bankers, but society as a whole in the long run is worse off because of this options. Another example – inventing weapon of mass destruction possible to installment in every house would make our choices broader, militaristic technology would be more advanced etc. etc., but would we really have more freedom after developing technology which would enable us to do that? I do not say about realizing it practically, because a part of Kelly's reasoning is to let us decide whether to adopt a technology or not. Maybe we should ask this question differently: is freedom really only about making choices? What would be wrong in deciding to avoid this choice and not develop such technology? Would not we call it thinking a step ahead, which permits us to have a better situation in future? I take such extreme case on purpose. I agree it is not a typical one, that it is not resembling typical process of technological progress, but on this example we can see that there are such situations, where providing choices is not a preferred option. If so then we need to divide technologies on such that we want to develop and that will enrich our lives and on such that would give us opportunities, which we do not need, which could be harmful. In other words in my opinion, we need to see the possibility of restricting directions of technological development and see it as an opportunity to provide better future. Of course adversaries could say that restriction of technological development is at the same time restriction of freedom and in that way something bad. I am afraid that conflict of values and understanding of them will appear here and that we will not be able to realize all of them (taking into account variations in understanding them).

It is important to point out that making choices is also seen as an important value by Jonas and Illich, but they define it differently than Kelly. For Jonas it is important not to limit choices possible to make by future generations. We should allow our inheritors to make up their lives according to their will and principles to the greatest possible extent, without delineating directions and priorities of life by developing technologies, which would redefine human life in a meaningful and irreversible way. Limiting choices in technological progress can be seen in this context as an element of providing freedom for future inhabitants of Earth and as a bigger benefit than freedom of scientific inquiry today (cf. Jonas 1984, p. 28). Illich would stress in this context that what may seem an opportunity for making more choices for the whole species not necessarily will have positive consequences for freedom of individuals. Enabling more power and control over the world may be at the same time restrictive for choices

of ways of life and make people subjects of objectives provided by new technologies and it's managers, thus limiting possibilities of self-determination (cf. Illich 1975, p. 37-39).

As an example of problems with judging what is giving us more freedom of choice we could name here the changing genetic code of human species. For instance a procedure enabling us being healthier and live longer. On one side (which I guess would be Kelly's interpretation of such situation) in this manner we are able to maximize choices enabling longer and healthier lives for people subjected to such practice. Next perspective (attributed to Jonas) would consider consequences for future generations, their ability to make free choices, to see their lives as meaningful and human. From yet another perspective (which I ascribe to Illich) we need to ask ourselves a question who will be able to pay for such a treatment? Will it be used as a tool to promote role of genetic experts and divide society on those who can buy it, those who can not and those who sell/manage it? There comes the next question of control, which we would have over this new technique. The main matter for Illich would be enabling people to decide for themselves. This includes avoiding situation in which medical treatment would be prescribed obligatory or would give such a big advantage to those using it, that it would stimulate a huge pressure on those unwilling to adopt it.

Freedom is considered as one of the most important values in democratic societies, but as we can see it is not clear what it means to be free in context of technological development. As I have showed above inspired by Hobbes conception of freedom as liberation from restrictions is too simplistic for our situation in the area of technology. We need to discuss which way will enable the most freedom for the biggest amount of people and accept that conclusions will not be always agreeable to freedom of making new research and providing new inventions.

Technology and convivial life

Ivan Illich draws our attention to problems occurring when technology achieves huge scale. At this point it is often not any longer the mean to which it was invented, but starts to realize its own agenda. As possible dangers, which could occur in technologically advanced societies Illich mentions – mass production, carrying away opportunities for practicing human skills, going forward on higher levels of expertise fragmenting society on experts and non-experts, change speeded up so high that experiences of the past desist from constituting guidelines for present events (cf. Illich 1975, p. 11). Illich describes two directions in which technological development can lead:

The first leads to specialization of functions, institutionalization of values and centralization of power and turns people into the accessories of bureaucracies and machines. The second enlarges the range of each person's competence, control, and initiative, limited only by other individuals' claims to an equal range of power and freedom.“ (Illich 1975, p. 12)

A research concentrated on the goal of technological progress is easily guided into the first path, because it is not against inner logic of this process to support specialization, institutionalization and centralization. In other words if we let technology to be

developed without much public guidance it is quite probable that it will be a tool of enlarging power and influence on the world, but putting aside goals important for better social relations. On account of this observation Illich explains:

Present research is overwhelmingly concentrated in two directions: research and development for breakthroughs to the better production of better wares and general systems analysis concerned with protecting man for further consumption. Future research ought to lead in the opposite direction; let us call it counterfoil direction research. Counterfoil research also has two major tasks: to provide guidelines for detecting the incipient stages of murderous logic in a tool; and to devise tools and tool systems that optimize the balance of life, thereby maximizing liberty for all.“ (Illich 1975, p. 92)

As a good example of problems generated by devices, which achieve huge role in the society and disturb equilibrium is a car. When invented it was a tool for moving fast and freely. Nobody have expected that it will produce traffic jams, fatal accidents, air pollution and contribute to increase of civilization diseases, social exclusion of people without it, social stratification corresponding to how expensive car you own, interests of big firms, negative changes in public space organization and distribution, consumption of energy which could be used to other purposes etc. (cf. Illich 1975, p. 66). To sum up according to Illich technology needs to be guided into the direction of values important for developing better society and should not be let go on its own.

How much humans can decide about technological development?

One of the most important questions related to technology is what are our chances to influence the ways and speed of it's development. It seems that for Kevin Kelly we do not have much choice. He points out that technological discoveries were quite often made simultaneously. From this he draws a conclusion that technium (his term for parts of the world influenced by technology, „self-reinforcing system of creation“ (Kelly 2010, p. 12)) can be described as a force having direction. Even if we can change a track which technological development will follow, the path of technology is still co-determined by former inventions and go towards goals co-determined by evolution and chemical, biological, physical circumstances (cf. Kelly 2010, p. 103-129).

Kelly, Jonas and Illich agree on the existence of force within technology which provides it with it's own objectives (cf. Illich 1975, p. 60-62; Jonas 1984, p. 141; Kelly 2010, p. 15). In other words they agree that technologies will have specific tendencies, which could be hard to override, constraining future choices etc. For Illich and Jonas this is an argument to give more attention, efforts and reflections to provide tools and concepts needed to enable us to have bigger influence on processes of technological development. They object to perceive scientific and technological progress as heading in one direction and as something inevitable.

Summary

In this paper, I have shown different approaches to technology, chances and dangers connected with it. I think that shortcoming characteristic for all this conceptions is lack of vision how to give a choice and connected with it responsibility to people, who are subjects of changes started by technology. In other words after understanding how important and influential technology is we should begin to give the power back

to citizens, whose vote should be taken more into consideration about decisions, which will have direct and cumulative effects over actual and future generations. It would need a lot of effort, changes in attitudes towards decision making, enabling common people to be able again to comprehend at some level what is going on in laboratories and political cabinets. Our educational system should teach children how to make rational choices (Wysmułek 2013, 15.00-16.32) and this should also include preparation how to influence trends and angels of technological development. All these are goals for a long run. In the short run we need to address the problem of hazardous technologies on a level of international treaties. We can see examples of such treatise bringing positive effects – Treaty on the Non-Proliferation of Nuclear Weapons and The Chemical Weapons Convention. We need discussion and provision of treaties which would limit pace of discovering of technologies which would be recognized as too risky and unsafe to develop. As an example of controversial technology, which in my opinion needs such public discussion are AIs able to make their own decision of killing people (Suarez 2013).

After above reflections I guess we should change question from the title of this paper into a few others: how to make technologies better? How to classify them? How to choose among them? How to give citizens occasions to decide about directions of technological developments? How to make science and technology subjected to public discussion, evaluation and decision making process? How to constraint destructive discoveries and let flourish praiseworthy ones?

References

Illich, I. 1975. *Tools for Convivality*. Glasgow: Fontana

Jonas, H. 1984. *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*. Chicago: The University of Chicago Press

Kelly, K. 2010. *What technology wants?* New York: Viking Penguin

Suarez, D. 2013. *The Automation Age: Daniel Suarez on why drones + 'Narrow AI' make us nervous*. http://blog.ted.com/2013/11/18/the-automation-age-by-daniel-suarez/, accesed 1 December 2013

Wysmułek, I. 2013. *Education and Democracy: Choice Making as a Skill: Ilona Wysmulek at TEDxPolishAcademyofSciences.* http://www.youtube.com/watch?v=XeHpxCoV9Sg, accesed 1 December 2013