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Art and Technique: A Framework of Unaccomplished Promises

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On Technology, Capitalism, Art and Imagination

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Meike Schmidt-Gleim, Carlos Pérez López: We would like to start with a very general question about technique and technology as an object of study. In your text "Modernity Theory and Technology Studies: Reflections on Bridging the Gap" (2003), you claim that technology studies are split into two opposed branches: Essentialist philosophy of technology represented, for instance, by the Heideggerian position, and empirical research on technology, for instance the Science and Technology Studies. The problem is that the first branch, while critical of modernity, even anti-modern, is essentializing technology. The second branch, the empirical research on technologies, is not essentializing technology, yet, it ignores the larger issue of modernity and thus appears uncritical, even conformist of the socio-technical development. Between these two lines of thought, how do you think the research on technology should be conducted? What are the stakes and what are the means of pursuing a non-essentialist study of technical life and technology that accounts for the wider frame of social, ethical and political implications?

Andrew Feenberg: The distinction between society wide effects of technology and particular cases is artificial. In reality, the two levels intermingle although it takes revisions at both methodological extremes to make this work in practice. Both the speculative attribution of a specific "essence" to technology and a theoretically crippling nominalism must be rejected. Technologies realize values through their design and social contextualization. Those values can be traced to specific actors, for example, in the form of economic interests or customary preferences. But values are not merely projections of the consciousness and will of actors. They have a life of their own and manifest themselves at the higher levels of culture as widely shared ideologies or consensus patterns of belief and practice. At these levels phenomena speculatively attributed to the essence of technology do actually present themselves. Thus the claims of a Heidegger cannot be dismissed even if we reject his own account of those claims.

Let me offer an example. Every ten or fifteen years a new technology promises to transform education. I just saw an announcement that virtual reality would soon do the trick. But the historical sequence is discouraging: radio, television, the Plato system, Computer Aided Instruction, the Internet have all made the same promise. What is the significance of this obsession with the technification of education? I trace it to the prevalence of the ideology of deskilling, already formulated clearly by Andrew Ure at the dawn of the industrial revolution in 1835. This ideology is rooted in the problematic structure of capitalism, which systematically dis-incentivizes workers and therefore requires heavy handed management to succeed in extracting surplus value. But the ideology is not confined to a single social group such as the bourgeoisie. Once it becomes hegemonic it invades the most inappropriate domains of social life with unrealistic claims for technological mediation. It is theorized by Heidegger, Ellul and other radical critics of technology in this generalized form as belonging to the essence of technology. By locating it at the level of culture, we can draw together the perspectives of radical critique and social studies of technology.

MSG, CPL: Let's continue with your latest book, *Technosystem: The Social Life of Reason* (2017a). In an interview that you gave at the end of last year, you presented your book as a reflection on the world we live in: "[...] a world of technical systems designed in accordance with technical disciplines and operated by personnel trained in those disciplines." (2017b)

In your book, you develop a theory that helps us to think about the threats and the potentials of the complex technical systems that organize our life. But you also try to look for ways of intervening into the technical life, in other words, for a transformation of this configuration that makes up the horizon of our experience. Can you explain how you conceive a critical intervention into the technical life? Where and how do you think this intervention can take place? And what is the role of actors of the technical world (engineers, designers, software developers, regular users, politicians, scholars and consumers) whose opinions and desires nourish the dynamics of this system? How is it possible to be part of "Technosystem" and intervene at the same time critically into this very system?

AF: My basic premises are simple: human knowledge is fallible and there are many solutions to technical problems with different social implications. If that is so, it must be true also of technical knowledge. Since our lives are framed by technical systems the errors and biases in technical knowledge will show up in our experience as flaws in those systems. I conclude that ordinary human experience has a corrective role in relation to technical knowledge. One can think of our life inside the technified world as the reality test technical knowledge must undergo, and our reactions to failures can be conceived as the basis for another sort of informal technical knowledge from below.

This simple formulation must of course be expanded and complexified. For example, what appear as flaws in technical knowledge may be rooted in economic interests or a professional tradition. How much of what we think of as technical knowledge is better understood as ideology? The very category of knowledge has legitimating functions in modern societies that blur the line between authentic epistemic achievements and merely disguised interests or professional prejudices. The distinction is complicated by the fact that choices among alternative technically rational problem solutions may be socially and economically biased. Then too, fallibility certainly describes the situated knowledges of ordinary users of technology. Terrible mistakes are made, such as the rejection of vaccines. So it is not clear at all where to place one's faith, in expert or lay opinion. Yet good results often

emerge out of the interaction of the two forms of knowledge. Either one on its own can lead down trajectories of error with catastrophic consequences.

Modern societies are unusual in achieving a high level of differentiation of technical work from social life. That makes for difficulty in communication between the makers and the users of technology. The difficulty is exaggerated where either or both technical experts and lay participants in technical life are arrogant and intolerant of criticism. In some cases institutions armour their technical cadre against criticism to protect the interests of dominant actors, best served by biased technical systems. These are the difficulties with which we contend but they are not insuperable. In the 1960s and 70s movements of “radical professionals” called into question the relation of expert and lay in innovative ways. Even in the absence of such movements and explicit questioning of roles, technical experts serve the public where the definition of their work has been informed by true public demands. I am thinking, for example, of engineers engaged in designing renewable energy systems, a technical response to environmentalist demands articulated in the public sphere. In sum, we are all as you put it “part of the Technosystem,” but that is the condition, not an obstacle, to intervention.

MSG, CPL: The thesis that seems to guide your argument in *Technosystem: The Social Life of Reason* asserts that one cannot think of technical rationality without social rationality. This contrasts with the idea supported by the so-called “essentialist tradition”, which conceives technology as an autonomous process that is indifferent to human arrangements. In your opinion, technical rationality – which means efficiency and functionality – affects social life as much as the latter determines and shapes technology. “Rationality” is therefore an ambivalent and complex concept that turns “technosystem” into a dynamic process of mutually interacting rationalities. Could you explain, how those rationalities are distinguished from each other and how they interrelate? May we think of the multiple and dynamic aspects of “technosystems” as the critical foundation of going beyond essentialist theory?

AF: As explained earlier, technical knowledge is fallible and biased and calls for knowledge from below to correct and complete it. There are thus two forms of rationality. The rationality of the technical experts is “formal” in the sense that it is thoroughly elaborated and formulated in highly general (“formal”) propositions. The social conditions for the production of such knowledge are fairly constant from one society to another: a cadre of skilled experts must be selected, trained and offered the material conditions for their cognitive labors. Whether it be Chinese Mandarins or American urban planners, these are the essential conditions for the production of differentiated formal knowledge. The knowledge of ordinary people living within the technical systems of modern societies is very different. It is not formalized and participation in its production presupposes no special qualifications. This informal technical knowledge from below responds to the fit between the expectations raised by the systems and their actual achievements. Every computer user has a mouthful he or she would like to share with the engineers who designed the damn things! This is often valid knowledge and often widely enough shared to inspire social movements and public opinion. Sometimes it is informed by technical experts who offer explanations and advice, facilitating communication with established institutions. Informal knowledge interacts productively with formal knowledge and is eventually incorporated into the technical disciplines.

MSG, CPL: In your text “Critical Theory of Technology: An Overview” (2005) you argue that in a Marxist perspective a main aspect of the capitalist system is the control of the

conditions of labor. The capitalist “has not merely an economic interest in what goes on within his factory, but also a technical interest. By reorganizing the work process, he can increase production and profits. Control of the work process, in turn, leads to new ideas for machinery and the mechanization of industry follows in short order.” Could we therefore conclude that capitalism shapes technology? And if so, how is technology shaping capitalism in turn?

You argue further that capitalist interest in the expansion of technical systems also leads to a technicalization of human relationships along the lines of efficiency. Can you explain how the capitalist technical system affects human and social relationships, how technical systems impose impersonal structures of domination?

AF: These are several huge questions. Capitalism has had an overwhelming influence on the trajectory of technical development over the last several centuries and it continues to shape technology today. Consider, for example, the evolution of the Internet from a highly decentralized system based on a uniquely open protocol to today’s corporate dominated Internet. A few big companies have concentrated control of attention to sell advertizing while all sorts of pathologies (loss of privacy, waste of energy, viruses, propaganda, fraud) proliferate because they are profitable or because the old protocol makes it difficult to stop them without interfering with corporate profits. One can imagine a very different Internet based on the undisturbed evolution under public control of a largely peer-to-peer system. Perhaps Estonia offers a partial example of some of the potentials of such a system.

The pursuit of efficiency characterizes capitalism at every stage, so long as we are clear that we are not talking about efficiency in the purely technical sense. Many technically superior designs are abandoned for failing to “efficiently” serve the interests of the dominant enterprises. This is particularly striking today in the context of neo-liberalism. Neo-liberalism aims to colonize the non-market sectors of society with capitalist style management in order to maximize control. Measures of efficiency are invented that justify the new management procedures, but any unbiased observer of the contemporary university can conclude that the imposition of ever more management is inefficient in terms of the original purposes of higher education. This case is typical of what is happening to professionalized domains generally. Thus technification is not an autonomous process but has clear social origins and can be contested as such. The accusations of so-called “Luddist” regression aimed at those who protest these new forms of technification are ideological and exemplify the new form that ideology takes in a technologically advanced society.

MSG, CPL: Walter Benjamin attributed a playful creative potential to technology – if only the production of technology would not be embedded in capitalist modes of production. Would you agree with this, and if so, would the abolishment of capitalism give way to a completely different and liberated technology? You write that technical action represents a partial escape from the human condition. Is thus the promise of a better life through technology valid in your opinion?

AF: Marcuse also entertained the idea of liberating not just human beings but technology through socialist revolution. He discussed the rise of more playful relations to technology possible after World War II which of course Benjamin could not witness. And neither Benjamin nor Marcuse could have imagined the further development around networking and mobile technologies. But these developments confirm the possibility they asserted of a different type of technology and a different relation to technology. The abolition of capitalism would be necessary for the

extension of playful technological relations beyond consumption into the production process itself. This is not just a dream but is already a real dimension of a few privileged sectors such as work in film and video games and some scientific research.

I would not say that technology enables us to escape the human condition. On the contrary, it is the human condition. The escapist illusion is precisely the source of many problems such as environmental pollution. I have no doubt that a better life is made possible by technology but there is a dark side to progress as well. I am reminded by your question of the hope scientists placed in “atoms for peace” after World War II. We were going to have energy so abundant it could be distributed free! The dark side—nuclear madness—was so horrible that some of those who had created the bomb believed there must be a correspondingly wonderful bright side to compensate. But it turns out that nuclear technology has no bright side after all. Few cases are as tragic as this one but unless there is a far more enlightened and effective reaction to environmental problems, the results may be similar or even worse.

MSG, CPL: The topic of our upcoming issue is technology and art. In this context, it is very interesting to come back to your thoughts on Marcuse’s theory of art and technology. You write that, according to Marcuse, the distinction between technology as a product of reason and art having a sensual framework is a result of a modern conception of reason: “While art has been confined to a marginal realm of «affirmative culture», reason has been reduced to an instrument in the struggle against scarcity.” (2008)

The distinction between technology and art is presented as problematic because it is based on the exclusion of a larger sense of reason as life-affirming. Could a re-opening of technology towards art bring about a shift in the conception of technical rationality?

AF: This is one of the most speculative of the many speculative projections in Marcuse’s thought. He called for the development of a new concept of reason by which he meant a form of rationality that would go beyond mere instrumentality to address the potentialities of human beings and nature. Art was to play a role in this project but not directly in the form of works. Rather the aspect of art relevant to the reform of rationality was its imaginative relation to reality. Marcuse points out that the distinction we make between technology and art was unknown to the ancient Greeks. Their concept of *technē* included both. In practice this meant that ideal aesthetic criteria were included among the objective criteria applied to technical making not only in art but also in what we would consider purely technical activities. Marcuse aims at a similar condensation of the differentiated functions of technique and art. Technical decisions should incorporate ideal potentials identified by the imagination.

But today that would require a different approach than in antiquity. Greek aesthetics had a traditional basis whereas we moderns cannot base our technical activities on the past but must anticipate the future. Marcuse never made it quite clear how this would work but I think he intended aesthetic criteria to emerge from the decisions of a free population no longer controlled by propaganda and manipulated needs. These criteria would bring technology into conformity with the potentials of the affected human and natural objects, contributing to the creation of a peaceful, harmonious world in which repression and destruction would be reduced to a minimum.

MSG, CPL: You say that imagination is a link between art and technology as it is involved in the transcendence of the empirically given. Yet, imagination has no place in the conception

of technical rationality defined by efficiency and functionality. So how to recombine and reintegrate imagination into technical rationality?

AF: It is not true that imagination has no place in technical rationality, even today. All new products stem from an imaginative leap beyond the present world. That leap is not formalized and so does not belong to the formal disciplines that preside over technical work, but everyone knows how important it is nevertheless. This is the inner limit of the criteria of efficiency and functionality which are not self-sufficient but always require some external impulse to be set in motion. Of course the case may appear different when the imaginative leap is made by ordinary people who protest a particular technological design and are rebuked by the authorities in the name of efficiency and functionality. We have had enough of those accusations of Luddism and irrationality addressed to protests against nuclear power and oil pipe lines in favor of renewal energy! This is a pseudo-rationalism; it masks the embarrassing fact that much of the content of the contemporary technical disciplines is based on past imaginative leaps, some even made in response to controversial political pressures. The problem is not with reliance on rationality but with the artificial restriction of rationality to a narrow rump. A more generous conception of rationality in a truly free society would recognize the technical role of the imagination.

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AUTHORS

MEIKE SCHMIDT-GLEIM

Akademie der bildenden Künste Wien

CARLOS PÉREZ LÓPEZ

Phd in Philosophy, University of Paris 8, France. Postdoctoral Research Fellow, Instituto de Investigaciones Gino Germani, Facultad de Ciencias Sociales, Universidad de Buenos Aires, Argentine (Conicet, 2018-2020)

ANDREW FEENBERG

Canada Research Chair in Philosophy of Technology School of Communication, Simon Fraser University